The Bradshaw Lecture

ON

THE CAUSATION OF FUNCTIONAL HEART MURMURS.

Delivered before the Royal College of Physicians of London on Nov. 2nd, 1899,

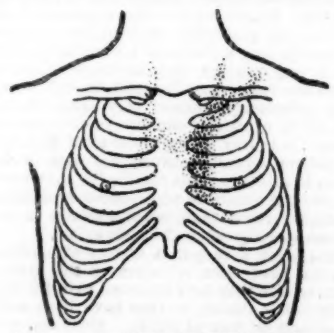
BY ARTHUR FOXWELL, M.A., M.D. CANTAB.,

FELLOW OF THE COLLEGE; PHYSICIAN TO QUEEN'S HOSPITAL, BIRMINGHAM; PROFESSOR OF THERAPEUTICS AT MASON UNIVERSITY COLLEGE, BIRMINGHAM.

MR. PRESIDENT AND GENTLEMEN,—When Sir Samuel Wilks graciously surprised me with the request to deliver this lecture I did not hesitate to accept the honour, but for some time lay in doubt as to my subject. In the end I came to think that I should be most likely to have matter worthy your acceptance if I spoke concerning things in which I was most interested. Hence the title of this lecture.

The etiology of the so-called inorganic cardiac murmurs has always seemed to me to be one of the *opprobria medicinæ*. These murmurs are heard by each one of us almost daily and yet to none can the vague and varying statements of their causation have ever proved satisfactory. During the last 16 years their etiology has been with me a subject of much thought and investigation. At last I feel quite clear in my own mind as to its nature. But to convince you is a different, more arduous, and far more important matter—one which, I perceive, may well be beyond me and one to which I now address myself with a full sense of its difficulty.

In the short space of one lecture I find it impossible to consider duly all these murmurs; I shall therefore confine myself to the commonest and yet most obscure—I mean the murmur heard over the second and third left spaces which, for the sake of brevity, I shall speak of as the pulmonary murmur. This murmur is systolic in time and is never accompanied by a diastolic element. It is best heard (Fig. 1) over the second and third left spaces close to the



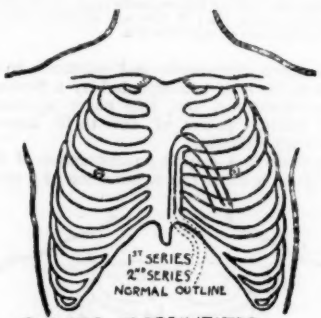
AREA OF PULMONARY MURMUR.

FIG. 1.

sternum and is best conducted thence up and out towards the left shoulder, travelling along the arc of a circle which has the axilla for its centre. It is also sometimes well heard in the fourth left space and may reach the apex, but it does not increase in loudness as it approaches this point, as do the murmurs of mitral incompetence and aortic stenosis. It may cross the sternum, appearing on the right side from the clavicle to the third rib, but it loses greatly in loudness in doing so and never travels far in this direction. When heard to the right of the sternum it is most evident in the second space but may even reach up into the vessels of the neck. In character it is loud, harsh, and blowing and gives the impression of having a superficial origin. It is never rumbling or purring, thus markedly differing from the murmur of organic pulmonary stenosis. A notable characteristic, considering its harsh loudness, is its want of travelling power; this is far less than in the case of organic murmurs generally, or, indeed, than in that of the functional murmur arising at the mitral orifice. It is not as fugitive as other functional murmurs, but remains with fair constancy till it vanishes for good, though, as the conditions producing it ameliorate, it sometimes requires a few sharp steps, or the supine position, to develop it. As a rule it is more evident in the supine than the erect posture, especially if it be listened for immediately upon the patient's lying down, before the circulation has been able to accommodate itself to its new relation to gravity. So much is this the case that it is doubtful if it be not the dynamic rather than the static change in position which is the more important element in its intensification. This is further borne out by the fact that any quick exertion, even a few sharp steps, will increase it as easily and as much as lying down. At the same time anatomical considerations induce the belief that the supine attitude conduces to its production, as will be seen when the question of dulness is discussed.

Accompanying this murmur we have the following *signs*.

A. The apex is pushed out and up, in a moderate instance lying beneath the lower part of the fourth space a little to the left of the nipple line. I find from an analysis of 23 cases in which this murmur, *and this murmur alone*, existed, the exact spot of the average apex was the middle of the fifth rib one-fifteenth of an inch within the nipple line. In another series of cases which I published in 1895[1] I similarly found that the apex was situated at the lower edge of the fifth rib and in the nipple line, so that the position was very nearly the same in the two series. In the supine position this removal of the



OUTLINES OF DEBILITATED HEARTS: THE AVERAGE HEART OF THE TWO SERIES OF CASES

FIG. 2.

apex up and out is still further increased. Such apical displacement roughly corresponds to a movement along the arc of a circle the centre of which is the aortic valves, probably the most fixed portion of the heart. This only refers to uncomplicated cases of pulmonary murmur; if a mitral or tricuspid be added, then the movement changes in its direction, being more out than up, more in the direction of a tangent touching the circle in the situation of the normal apex than along the corresponding arc. Indeed, the varying dilatation of the two ventricles may be fairly gauged by watching this movement of the apex (Fig. 3).

B. The dulness[2] is little, if at all, increased to the right (Fig. 2); in the same series I find that it is only three-tenths of an inch to the right of the left edge of the sternum, and in my former series it did not quite reach the mid-sternal line. But the vertical dulness is much raised; instead of being at the upper border of the left fourth cartilage at its junction with the sternum it reaches to the middle of the third cartilage. In the earlier series it reached even higher, extending into the lower part of the second space.

This peculiar outline of cardiac dulness is characteristic of the debilitated heart and contrasts strongly with that of any heart enlarged by inflammatory disease of the pericardium or valves. Such difference is well exemplified in the accompanying diagrams (Figs. 4 and 5) where A B C = outline of normal heart, D E F = that of the heart in debility, G H K

[1] Essays in Heart and Lung Disease, p. 339.

[2] This always refers to the superficial or absolute dulness. I have elsewhere stated my reasons for preferring this. Op. cit., p. 328.

of a heart with advanced mitral disease, L M N in a case of aortic disease, and O P Q that of pericardial adhesion. This vertical dulness changes considerably with posture, always rising still further when the patient is supine and at the same time extending more to the left of the sternum.

C. Another characteristic sign is the pulsation in the second, third, and fourth left spaces; this pulsation is evident and palpable, has a vermicular movement and

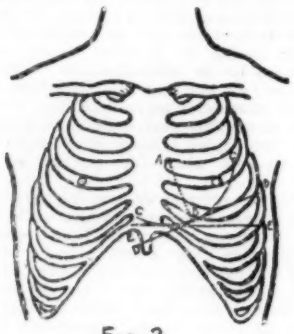
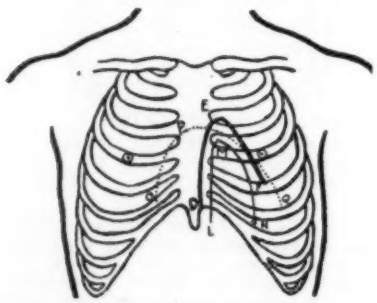


FIG. 3.

If A = centre of aortic valves = heart's axis of rotation: B = normal apex: C B C = arc of a circle whose radius is A B: D D = tangent at B; E E = tangent at point between B and C—then if the right ventricle alone enlarge the apex will travel along C B C; if the left ventricle share in the enlargement slightly, along D D; if the left ventricle be much enlarged, along such a tangent as E E.

extends from above downwards and outwards towards the apex; occasionally it is accompanied by a feeble thrill of slow and low vibrations, but this never approaches the strength and rolling power of the thrill accompanying organic pulmonary stenosis.

D. Usually there is a slapping accentuation of the second sound; this often heralds the appearance of a murmur and



DEF = OUTLINE OF HEART IN DEBILITY.
LMN = " " " " AORTIC DISEASE.
OPQ = " " " " ADHERENT PERICARDIUM

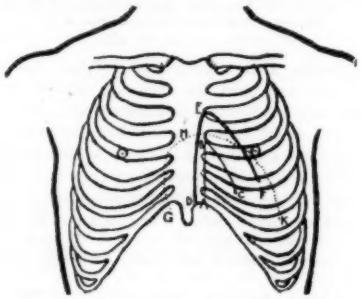
FIG. 4.

lasts for some time after it has gone. Evidently it is produced by a less degree of the same conditions which originate the murmur.

E. There is often when lying supine an indefinite pulsation in the veins on the right side of the neck; this is not usually present in the erect posture and disappears when the peripheral venous stream is cut off.

F. The pulse varies considerably; it is nearly always short and ends abruptly, as if the ventricle had suddenly struck work; the onset, also, is too abrupt; the amplitude of the wave during its short existence is usually small but by no means necessarily so; its diameter may be of quite average size, though the pulse would never be described as large or full. At the same time, it is the abruptness of its onset and ending which is most characteristic.

The pulse wave has a trembling unevenness which can be best described by the adjective "thrilly" and suggests to the mind a ventricle which is labouring and has to perform its systole with a succession of abortive contractions instead of a long and steady one. An attempt is made to make up for this feebleness of individual effort by an increase of rate. In one case which has come under my notice, with the onset of debility the pulse-rate has gradually risen from 60 to 80; it is rare for patients with pulmonary murmurs to have a rate below 80. The tension of the impulse is sometimes high and the radial may feel hard during the stroke; but it is rarely correct to speak of the tension generally as high, for the vessel nearly always collapses and feels empty between



DEF = OUTLINE OF HEART IN DEBILITY
ABC = " " " " HEALTH
GMK = " " " " MITRAL DISEASE

FIG. 5.

the beats. Even this modified high tension only occurs in comparatively slight cases and in all the pulse gives the impression that a smaller cylinder of blood than usual is being sent into the aorta at each systole.

Of the *symptoms* which occur with this condition the chief and most evident is dyspnœa on exertion, especially if this exertion be in any way sudden, such as that of running upstairs or vivid emotion. Exertion guardedly approached and slowly undertaken may be performed without any dyspnœa. But no exertion can be long maintained; weariness, physical and mental, comes very quickly. Palpitation, peevish irritability, and dyspepsia are common. The skin is dull, toneless, and pallid. This pulmonary murmur very often occurs during adolescence and is especially common in chlorotic girls. On the other hand, it is very rarely found after 60 years of age, but it not seldom appears between the ages of 40 and 50 years. When it arises towards middle life it is most difficult to remove; when it occurs in adolescence without anæmia it resists treatment more than when anæmia is present, it vanishing most speedily when chlorosis exists.

The patients often give you a history of cardiac strain—several of mine have been sprinters on the cycle track or running path, or else they have returned to full work too soon after an exhausting illness, or they have been subjected to prolonged anxiety or mental strain. Most commonly their condition is the result of a gradual lowering of the constitutional state—they have slowly fallen below par.

In examining the heart *in situ after death* we find the situation of the apex changed as was indicated during life; there is no enlargement of the right or left auricle, nor does the right ventricle extend unduly to the right; but sometimes it forms the apex and may quite hide the left ventricle. But what is most interesting is the enlargement upwards of the right ventricle; this dilatation is almost entirely confined to the conus arteriosus. On removing the front of the thoracic wall the conus not only bulges unduly forward but is wider than normal; moreover, the pulmonary artery is similarly widened and bulging forward. Here is evidently to be found the explanation of the increased vertical dulness on the left of the sternum just as we similarly find it on the *right* of the sternum in cases of aortic dilatation from chronic aortitis. The stretching of the conus carries the pulmonary valves upwards, and in 20 cases of exhausting disease, reported by various observers, they were found on the average under the second costal cartilage. These valves

after death are usually found higher up than was the upper limit of absolute dulness during life.

The following additional cases further exemplify this condition. The post-mortem statements were made by Dr. Douglas Stanley, our pathologist, and the cardiac outlines during life were taken from the clinical notes of each case which were made by different physicians and house physicians.

CASE 1.—The patient was a man, aged 39 years. Death resulted from cholangitis and duodenal cancer. After death the pulmonary artery was found to reach up to the lower border of the second cartilage and it extended from the mid-sternum for one and a half inches to the left of this bone (=width of two and a quarter inches). The pulmonary valves occupied the middle of the second space. The apex was situated at the upper border of the fifth rib just inside the left vertical nipple line.

CASE 2.—The patient was a man, aged 36 years. Enteric fever was the cause of death. Post mortem the pulmonary valves were seen to lie beneath the lower edge of second left cartilage. The apex was situated beneath the fifth rib, one-eighth of an inch internal to the left vertical nipple line. During life, according to the only note made in this case, when the patient was admitted to hospital, the apex beat reached to the fourth space, half an inch internal to the left vertical nipple line. The vertical dulness was at the upper border of the fourth cartilage and the right dulness at the left edge of the sternum. No murmurs were heard.

CASE 3.—The patient, a male, aged 19 years, died from purpuric leukæmia. During life the apex beat reached to the lower border of the fourth space. There was right dulness at the left edge of the sternum and vertical dulness at the upper border of the third cartilage. Soft systolic murmurs were heard at the apex beat and in the pulmonary area. After death the apex was in the fourth space and left vertical nipple line, the right margin was two and three-quarter inches from the mid-sternum, and the pulmonary valves lay under the second cartilage.

CASE 4.—The patient, a man, aged 47 years, had suffered from cirrhosis of the liver with hæmatemesis. During life the apex beat was in the fourth space, one and a quarter inches without the left vertical nipple line. There was right dulness at the left edge of the sternum and vertical dulness at the lower border of the second space. A systolic murmur heard in the first four left spaces was most marked in the second and third spaces. After death the apex was in the fourth space, three and a half inches from the mid-line. There were right dulness one and a quarter inches from the mid-line and vertical dulness at the lower border of the second space. The left pleura was very widely adherent.

CASE 5.—The patient, a male, aged 16 years, had died from anæmia. After death the apex was in the fourth space and left vertical nipple line. The heart reached one and a quarter inches to the right of the mid sternum at the fourth cartilage. The pulmonary valves lay beneath the middle of the left first space. Before death the apex beat was slightly internal to the left vertical nipple line in the fourth space. Systolic murmurs were heard at the apex beat and in the pulmonary area, and a venous hum was audible in the neck.

CASE 6.—The patient had died from phthisis. The pericardium was not at all adherent on the right but it was universally so on the left. The sac reached from the first left cartilage to the position of the apex beat in the fourth space. The left ventricle was not enlarged. The apex beat was formed by the right, which reached some eighth of an inch below the left. The posterior pulmonary valve was one-third of an inch above the anterior aortic; the anterior pulmonary valve was half an inch above its posterior fellow and therefore five-sixths of an inch above the aortic valves. This case shows in a marked manner that the anterior wall of the pulmonary artery rises more than does the posterior wall.

The foregoing is a brief statement of the chief conditions found during life and after death in cases of debilitated heart. They are so frequently associated that there must be a causal relationship between them and any explanation of one should also help to explain the rest. An explanation of the cause of the pulmonary murmur is the more likely therefore to be the true one if it also explains the origin of the other conditions described. What, then, is its explanation?

I.—It cannot be due to the quality of the blood for the following reasons.

1. In many cases where this is greatly changed there is no murmur. The following may be cited as a few examples:—

CASE 7.—The patient suffered from chlorosis. Red corpuscles, 3,700,000; hæmoglobin, 65 per cent., with slight poikilocytosis. No murmurs were heard.

CASE 8.—A man, aged 61 years, was the subject of carcinoma of the stomach. Red corpuscles, 3,625,000; hæmoglobin, 62 per cent. No murmurs were heard.

CASE 9.—The patient was a male who suffered from phthisis of both lungs. Red corpuscles, 2,910,000; hæmoglobin, 45 per cent. The corpuscles varied much in size. No murmurs were heard.

CASE 10.—A man aged 21 years had hectic fever after operation. Red corpuscles, 3,600,000; hæmoglobin, 72 per cent. No murmurs were heard.

CASE 11.—The patient was a male who was the subject of subpectoral abscess. Red corpuscles, 4,000,000; hæmoglobin, 68 per cent. The cells were very pale; there was some poikilocytosis. No murmurs were heard.

CASE 12.—The patient, a female, aged 18 years, suffered from gastric ulcer and hæmoptysis. Red corpuscles, 2,470,000; hæmoglobin, 20 per cent. There were many microcytes and some poikilocytosis. No murmurs were heard.

CASE 13.—The patient, a man, aged 40 years, was the subject of plumbism. Red corpuscles, 3,600,000; hæmoglobin, 40 per cent. No murmurs were heard.

CASE 14.—The patient, aged 24 years, suffered from Hodgkin's disease. Red corpuscles, 4,770,000; white corpuscles, 10,000; hæmoglobin, 33 per cent. No murmurs were heard.

CASE 15.—The patient was a man, aged 35 years, who suffered from malaria. Red corpuscles, 3,820,000; hæmoglobin, 48 per cent.; there was some poikilocytosis. No murmurs were heard.

CASE 16.—The patient, a man, aged 41 years, suffered from pernicious anæmia. Red corpuscles, 1,320,000; hæmoglobin, 30 per cent. There were many microcytes, some megalocytes and much poikilocytosis. No murmurs were heard. This man was an in-patient and had been examined many times.

CASE 17.—The patient, a female, aged six years, was the subject of abdominal abscess. Red corpuscles, 3,814,200; hæmoglobin, 55 per cent. No murmurs were heard.

2. Again, in addition to being absent when the blood is much deteriorated, the murmur frequently exists when there is no change in the blood. And in this regard I would ask you to note that whilst many of Class 1 were in-patients and lying in bed, yet no example of the present class could be obtained from such cases. This point I shall discuss later, but I would ask you to bear it in mind, for in my judgment it is strong evidence that the murmur is due to a special form of cardiac strain. Amongst out-patients the following are examples.

CASE 18.—The patient, a youth, aged 18 years, convalescent from a long attack of typhoid fever, was up and about. Red corpuscles, 4,610,000; hæmoglobin, 82 per cent. There was much poikilocytosis. A pulmonary murmur was well heard both when the patient stood erect and (much louder) when he assumed the supine position.

CASE 19.—The patient was a woman, aged 40 years, who suffered from debility. Red corpuscles, 4,500,000; hæmoglobin, 81 per cent.; slight poikilocytosis. A pulmonary murmur was well marked.

CASE 20.—The patient, a female, aged 20 years, the subject of debility, was under treatment for four months. Red corpuscles, 5,400,000; hæmoglobin, 81 per cent. There were a few microcytes (two examinations were made). A pulmonary murmur was heard on each of three examinations.

CASE 21.—The patient, a girl, aged 17 years, suffered from debility. Red corpuscles, 4,855,000; hæmoglobin, 86 per cent. A pulmonary murmur was well marked.

CASE 22.—The patient, a male, aged 21 years, suffered from debility. Red corpuscles, 5,100,000; hæmoglobin, 100 per cent.; the cells were quite normal. A pulmonary murmur was only heard when the patient was in the supine position.

CASE 23.—The patient, a youth, aged 18 years, was the subject of debility. Red corpuscles, 5,400,000; hæmoglobin, 94·5 per cent. (the mean of four examinations). A pulmonary murmur was heard when the erect or the supine position was assumed.

CASE 24.—The patient, a female, aged 18 years, suffered from debility. Red corpuscles, 4,690,000; hæmoglobin, 81 per cent.; slight poikilocytosis, fairly uniform in size. A

pulmonary murmur could be heard when the patient was erect or when she was supine.

CASE 25.—The patient, a man, aged 20 years, was debilitated. Red corpuscles, 5,150,000; hæmoglobin, 90 per cent. The cells were normal. There was a well-marked pulmonary murmur to be heard when the patient was lying down.

Amongst my private patients I find a considerable number of such cases, but I cannot vouch for the condition of their blood as I did not examine this. All I can say is that their appearance did not give the slightest indication of poor blood. It may perhaps be worth while to give one or two instances.

CASE 26.—The patient, a man, aged 22 years, had "always gone in much for athletics." For the last two years he had felt an "indigestion lump" behind the sternum when racing. He was fairly fit on rising in the morning, but he would soon get "all gone," palpitation easily coming, especially after dinner. He was well set up and strongly built and showed no sign of anæmia. The apex beat reached the fifth space and nipple line; the impulse was diffused. There were vertical dulness at the third space and right dulness at the left edge of the sternum. In the second and third left spaces was visible pulsation with a loud systolic murmur. This was well conducted out and up into the first space and towards the shoulder. It was also heard in the fourth and fifth spaces, nearly reaching the apex.

CASE 27.—The patient, a man, aged 23 years, had strained his heart three years previously at football. He gave up active exercise, but strained his heart again whilst cycling a year later. Eighteen months afterwards his heart again went wrong when tea-planting in Ceylon, his symptoms being dyspnœa and cold extremities. He sought my advice for violent earache, from which he had suffered for three days. He had no sign of anæmia and was well-built. The apex beat was in the fifth space, half an inch outside the left vertical nipple line. There were vertical dulness in the third space and right dulness at the left edge of the sternum. A short systolic murmur was heard in the second space on lying down.

CASE 28.—The patient was a man, aged 27 years. Formerly he had been very athletic, but when seen he was depressed, neurotic, and easily subject to palpitation. He did not look anæmic, but his blood was not examined. He came to be tested for insurance. The apex beat was in the normal situation, the impulse slapping and thumping. The second pulmonary sound was accentuated. There was a systolic murmur which was best heard in the second left space, half an inch from the sternum, thence into the first space and out to the shoulder, also feebly in the third space, not over or to the right of the sternum. As a rule no murmur was heard in the third and fourth left spaces, but an occasional systolic murmur was heard at, and a little outside of, the apex beat. There were vertical dulness at the third cartilage and right dulness at the mid-sternum.

CASE 29.—The patient, a youth, aged 17 years, had never been very robust, but he entered into games well. There was no evidence of anæmia. He sought advice because he did not feel up to his work. The apex beat reached the fifth rib and the left vertical nipple line. There were vertical dulness in the third space and right dulness at the left edge of the sternum. A systolic murmur sprang up in the second, third, and fourth left spaces on sharply walking or on lying down.

3. If it were due to changes in the blood then similar murmurs should arise in all parts of the body to a greater or less extent, especially where there are angles or sharp curves, and not be confined to a definite locality.

4. Immediately after severe hæmorrhage such generalised murmurs do arise but they cease in a day or so when the vessels are again sufficiently distended with (what must be) hydræmic blood, but later, if debility set in as a result of the hæmorrhage, the pulmonary murmur appears and persists till the patient is restored to his customary vigour.

5. Persons convalescing from exhausting diseases—e.g., typhoid fever—whether suffering from anæmia or not, may have no murmur so long as they are confined to bed, but when sufficiently recovered to be up and about a murmur not seldom arises. An instance of this is Case 18, but a very interesting and to my mind more convincing example is the following.

CASE 30.—A married woman, 29 years of age, was admitted to hospital with enteric fever. Seven days prior to her discharge, before she had been allowed up, the following was the note made of her heart. The apex beat reached the fourth space, half an inch outside the left vertical nipple line. There were vertical dulness over the upper border of the third left cartilage and right dulness to the right of the left edge of the sternum. A harsh systolic murmur was heard at the apex beat and a short soft whiff at the beginning of systole in the second left space. Three weeks later, after the patient had done her housework for a fortnight, another observer, quite ignorant of the previous note, made the following independent observations. The apex beat reached the lower border of the fourth space in the left vertical nipple line. There were vertical dulness at the upper edge of the third left cartilage and right dulness a quarter of an inch to the right of the left edge of the sternum. There was no apical systolic murmur, but there was a well-marked systolic murmur in the second left space which was well conducted up and out into the first; it was also slightly heard in the third left space. It became louder on lying down. A reference to Fig. 6 explains what happened.

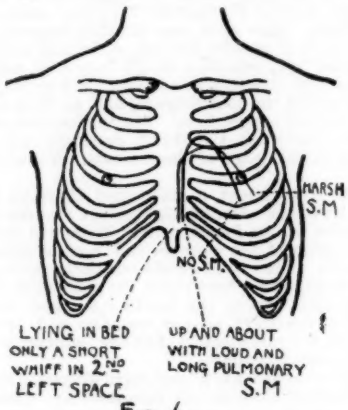


FIG. 6.

The improvement in the general health and strength pulled the heart together; the dilated left ventricle came back to its normal size, as shown by the recession of the apex beat, and with this the mitral valve ceased to leak; but the conus was not able to withstand the strain put upon it by all the short little exertions of housewifery, hence the pulmonary murmur became much louder and the vertical dulness still further raised, although the lungs were no doubt more fully inflated than when the patient was confined to bed. The blood of this patient was not examined, as she gave no evidence at any time of anæmia, though no doubt its quality was somewhat below par on both occasions.

6. By a method presently to be described various fluids were forced through the human heart with a view to determine whether changes in the circulating medium made any differences in the sounds produced.

Experiment 1.—The first heart experimented upon was that of a woman, 36 years of age, who died from gangrene of the leg with granular kidneys. The pericardium was healthy but the whole heart was enlarged. The right ventricle was dilated and its wall was chiefly composed of fat, its muscular layer being extremely thin ($\frac{1}{17}$ inch). The left ventricle was dilated and hypertrophied, the wall being three-quarters of an inch thick but showing extensive fatty degeneration. The mitral and aortic valves were thickened, the aorta was atheromatous, and the endocardium was thickened and opaque. This heart, then, was peculiarly suited to increase the murmur-producing capacity of any fluid. The pericardium (parietal layer) was kept on, ordinary tap-water was first used, and the sounds at the base of the heart were carefully noted. These were unchanged when a saline solution (specific gravity 1045) was passed through. They still remained unchanged when a thick solution of boiled starch, containing lumps half an inch square and one-sixteenth of an inch thick, was employed. It was particularly noted that even if several of these lumps passed together yet no change in the sounds occurred. Yet if pressure were made by the stethoscope a murmur appeared and remained unchanged in quality on again passing the three fluids through. A window was then cut in the parietal pericardium over the

pulmonary artery and conus, and through which these bulged, and the same three fluids were used. With each systole a short murmur was heard and this remained the same whichever fluid was used. This experiment shows that certain changes in the circulating medium produce no change in the sounds, but certain changes in the shape of the containing apparatus induce a murmur.

Experiment 2.—This experiment was made upon a heart from a healthy man, aged 32 years, who died from fractured base. The heart was healthy. (*a*) With tap-water. A soft murmur was heard over the aorta as well as over the pulmonary artery. This was unexpected and in seeking for the cause a portion of the pulmonary artery next the aorta was found to be bulging and uncovered by pericardium. The torn pericardium was brought together and sewn up over the bulge. After this was done no murmur was heard. (*b*) Salt solution (specific gravity 1035) was next passed through. The sounds remained unchanged. (*c*) A solution of milk and borax (specific gravity 1056) was used. Again there was no change in the sounds. (*d*) A solution of starch (specific gravity 1005). No murmurs were heard but the sounds generally were deadened, and it was more difficult to produce a murmur by locally compressing the conus or pulmonary artery. (*e*) A window was now made in the pericardium over the pulmonary artery and conus, allowing these to bulge through it. With the same starch solution a short soft murmur was heard but this could not be detected with the stethoscope on the aorta. (*f*) Tap-water was now used and the murmur became louder and could be detected over the aorta. (*g*) The pericardium was entirely removed; tap-water was again used; no murmur could be detected. In this experiment it must be noted that starch solution tended to prevent the production of a murmur. But the difference between the viscidity of tap-water and a starch solution—which was made as thick as we could pass through the tubing—is so many times greater than that which could arise between varying states of the blood that much stress cannot be placed upon it. Still, so far as it goes, it is against rather than for the hæmic origin of the murmur, as the great excess of white corpuscles in leukæmia must surely increase the viscidity of the blood in these cases and therefore militate against the production of the murmurs which are usually heard in this disease.

7. It has been suggested that as in anæmia the corpuscles are lighter than normal they may occupy the upper semi-circumference of an artery and so tend to produce a murmur by their friction against the sides of the vessels. But in anæmia the specific gravity of the blood serum is also lessened and there is no evidence to show that the two diminutions do not proceed *pari passu*, and hence there would be no tendency for the corpuscles to deviate from their usual axial position. Moreover, even if true, this could only account for the murmur in cases of anæmia and not for that which arises in other forms of cardiac debility.

For these seven reasons I think it impossible that the murmur can be due to changes in the blood.

II.—If the murmur be not due to a change in the contained fluid it must arise from some defect in the containing apparatus. As its area of audition is localised it would seem that the change must be also localised. That is, it must occur in the heart or some one or more of the great vessels close to the heart.

1. Is it due to regurgitation through the mitral orifice? Against this are these facts: (*a*) Its area of audition is very different from that of an organic mitral lesion; it is feebly, if at all, heard at the apex and is never conducted from the apex to the axilla. When an organic mitral murmur is heard in the second and third left spaces it is evidently a murmur conducted from the apex with gradually lessening intensity; it is true it occasionally becomes a little louder at the base, just as an aortic regurgitant murmur springs up again at the apex, but even then it is not better heard on the left side than on the right, if as well. No one has heard the murmur of organic mitral regurgitation in the second and third left spaces only and failed to discover it at the apex or between this and the axilla. But these two spaces are the very ones in which the murmur whose origin is now being discussed is so frequently alone audible. (*b*) The area of dulness both in functional and organic uncomplicated mitral regurgitation is the same and very different from that occurring in cases of uncomplicated pulmonary murmur. (*c*) A functional murmur does arise the distribution of which is identical with that of organic mitral regurgitation and is accompanied by similar changes in the area of dulness and situation of the apex, and when it arises in conjunction with the murmur under discussion it tends to modify these in the directions indicated. This functional murmur is recognised as being due to functional mitral leakage; it is very fleeting and is softer than the pulmonary murmur, though much better conducted. It is conducted to the back in the region of the angle of the scapula; the pulmonary murmur is heard with extreme rarity posteriorly; when it is so heard it is at a point in the left inter-scapular region near the spine of the scapula. It is, to say the least, difficult so to arrange one's mind as to believe two sounds so different are due to the same cause.

2. Is it due to tricuspid leakage? Here, again, we can fortunately compare it with a murmur arising from tricuspid leakage due to back pressure in organic mitral disease. This murmur is heard over the lower part of the sternum and about equally in the third, fourth, and fifth spaces on either side of this bone; sometimes it is conducted up into the second right space and even reaches the right clavicle, but this upward conduction does not occur on the left side of the sternum. The right dulness is considerably increased but the vertical dulness scarcely at all. The apex is pushed out to the left and down rather than up. There is a distinct systolic pulsation in the veins of the neck which is best demonstrated by cutting off the peripheral flow. The indefinite undulation which may occur with the pulmonary murmur tends to be presystolic and, at any rate, cannot be definitely connected with the systole, and often vanishes when the peripheral flow is cut off. Finally, in the tricuspid regurgitation due to mitral disease there may be hepatic pulsation and this never arises in the merely debilitated heart.

Beyond all this a purely functional murmur is sometimes heard in cases of debility which has all the characteristics I have just mentioned and which is, so far as I know, universally allowed to be due to leakage through the tricuspid valve. Moreover, when in a debilitated subject, in addition to the usual murmur over the pulmonary valves another springs up having the location I have just described. Then the shape of the cardiac outline also changes, widening out on both sides, but not rising any further upwards. The outline takes on, in fact, the shape due to tricuspid leakage as well as that caused by dilatation of the conus. Venous pulsation also arises and we have every reason to believe that we are dealing with a fresh lesion in the shape of a failing tricuspid valve.

3. Is it due to any aortic defect? Virchow's congenital narrowing is only stated as occurring in chlorosis and must be an extremely rare event in this disease. No constriction or dilatation was noted in any case of which I have records, neither of valves nor of artery. When degeneration arises in middle life, and chronic aortitis, with its roughening of the inner coat and widening of the aorta, produces a systolic murmur, the clinical signs are very different and the murmur has quite a different habitation.

4. Is it due to a defect in the pulmonary valves? Nowhere can I find in the post-mortem notes on individuals whose hearts before death gave evidence of the pulmonary murmur, and this alone, any statement of thickening, constriction, or erosion of these valves. Besides, the murmur differs in many ways from that of organic valvular stenosis: it is far less well-conducted, there is no true purring thrill, and the forcible heave of a hypertrophied right ventricle is entirely lacking.

III.—There is one post-mortem abnormality which is constantly found in patients who have died with this functional pulmonary murmur—that is, dilatation of the conus and pulmonary artery with a carrying up of the root of the artery, so that in the supine condition it tends to lie directly over its bifurcation.[3] Is this the cause of the murmur? I believe it is and for the following reasons.

1. The murmur is systolic only; there is never a diastolic portion: hence the orifice of the valve cannot be dilated

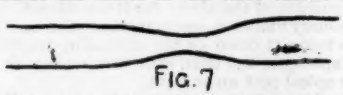


FIG. 7

enough to allow of leakage. Post-mortem evidence bears this out, for there was no increase in size in two valves which I measured. We have, therefore, a tube with an annular constriction (Fig. 7), a condition well known as able to induce a murmur.

[3] Vide Cases 3 and 4 supra.

2. The dilatation of the conus carries the pulmonary artery upwards till the valves are vertically over the bifurcation, which is a fixed point (Fig. 8)—i.e., it lessens the distance between the two ends of the artery; the artery therefore tends to fold itself longitudinally, as does the curly brachial in cases of arterial degeneration. This lack of

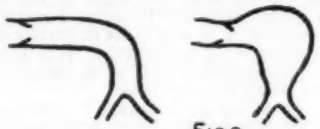


FIG 8.

longitudinal tension to a great extent renders the restraining force of the longitudinal fibres of no effect; hence dilatation, being now prevented by the circular fibres only, is much more likely to occur and a pouch-like distension to be produced by the systolic inrush of blood; hence eddies and a murmur.

3. The same want of room and laxness will increase the artery's tendency to flatten itself against the comparatively rigid chest wall and aortic arch, this flattening acting as a partial constriction and so again tending to induce eddies and a murmur.

4. The anterior wall of the pulmonary artery is carried up farther than the posterior wall. One would expect the anterior muscular portion of the conus to stretch and not its posterior ligamentous surface. Moreover, the union of the posterior wall of the pulmonary artery to the aorta would prevent upward movement of the former. Case 6 shows that this actually takes place, the anterior segment of the pulmonary valve being in this instance some half an inch higher than the posterior one. The plane of the valve ring is, therefore, not perpendicular to the longitudinal axis of the artery and the systolic inrush of blood would tend to direct itself against the side of the vessel and thus induce an eddy and a murmur; further, the anterior wall is also more shortened than the posterior wall and would be laxer and tend more to sag. In fact, the systolic rush of blood would tend to take the direction indicated by the arrows in the accompanying diagram (Fig. 9), a direction evidently murmur-producing.

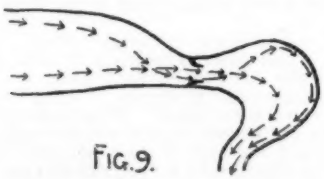


FIG. 9.

5. The movement of the apex upwards and to the left still further alters the angle at which the ventricle lies to the pulmonary artery. This movement of itself would appear to be sometimes capable of inducing a murmur, as the murmur which arises with a left pleural effusion and vanishes *at once* on the withdrawal of the fluid would tend to show.

6. This view would easily explain the increase of the murmur in the supine position. When erect the weight of the heart tends to keep the pulmonary artery and conus on the stretch and so to prevent or lessen their dilatation. In the erect position the ventricle has to force the blood into the artery against gravity and would therefore do so with less power. Lastly, as the systemic tension is lower in the erect than in the supine posture, probably this is also true of the pulmonary circulation; hence the pulmonary artery and conus would be less stretched in the erect posture.

7. It would evidently explain the outline of dulness and also the position of the apex; for if the dilated conus pushes the pulmonary valves upwards it must also equally push the ventricle below it down on the unyielding tendinous portion of the diaphragm, and thus, after the manner of a see-saw, push the apical part up and out.

So far, then, I have given you direct as well as circumstantial evidence that the murmur is not due to any changes in the blood, and I trust that this evidence will prove satisfactory to you; but I have only been able to advance circumstantial evidence that it is due to a dilatation of the conus and pulmonary artery. To my mind, though circumstantial, this evidence is so strong that I have for long given this explanation of the murmur to students, but feeling that direct evidence is much more convincing I have this year endeavoured to obtain such.

I set myself three questions to answer: First, can this murmur be always heard after death in a heart over which it was heard during life. Secondly, is it never heard after death in the healthy heart? And, thirdly, can the murmur be produced after death by locally dilating the conus and pulmonary artery of a healthy heart?

To these three questions I believe I have obtained affirmative answers which I will now submit to you for your consideration.[4]

First, let me describe the method of procedure. After removing the front of the thoracic wall from a cadaver on the post-mortem table the large vessels were cut as long as possible and then the heart and pericardium were removed together, great care being taken not to puncture the latter organ. The heart thus isolated was placed upon a wooden block on a post-mortem table (vide diagram Fig. 10 and reproduction of photograph of the apparatus, Fig. 11). Into the superior vena cava and into a pulmonary vein were fastened two leaden pipes having an internal diameter of one inch, the ligatures including the pericardium. At the other end of each of these rigid tubes was a valve which prevented any back flow from the heart, thus acting as mitral and tricuspid valves respectively. Beyond the valves stout rubber tubing of the same diameter led to two buckets which were suspended on pulleys, so that they could be lowered or raised at will and thus vary the venous supply pressure. The buckets were kept full by connexion with water-taps. Into the aorta and one limb of the pulmonary artery were similarly fastened two glass T tubes, that in the pulmonary artery having a diameter of two-thirds of an inch and that in the aorta of half an inch. One limb of each T was connected with a mercurial manometer and the other was passed into a series of lessening and bifurcating tubes to represent the resistance of the pulmonary and systemic circulations. It will be noted that the bore of the glass T's is less than that of the arteries; it may be thought that such diminution would tend to induce a murmur; but as the bore of the aortic T is less than that of the pulmonary such tendency would be greater in the aorta, yet in no instance was there evidence of such tendency in this vessel, so that this contraction of bore had no effect on the result. When everything was fixed in position the heart was firmly grasped in the two hands of one of us and forcibly compressed, whilst another listened through a binaural stethoscope applied to the heart. There are three objections to this method. 1. The auricles are subjected to the same systolic pressure as the ventricles and thus occupy too much space during systole; but as each auricle and ventricle practically corresponded to one ventricle the auriculo-ventricular valves being outside the heart, this defect was of small moment. 2. The difficulty of exerting different pressures on the left and right side; we were surprised at the ease with which this was overcome; with a comparatively small experience it was quite possible to make the manometer connected with the aorta average twice the pressure of that connected with the pulmonary artery. 3. The passivity of the heart. This acted in two ways: (*a*) the venous inflow had to distend inert cavities, hence the diastole took far longer than during life unless we made the venous pressure absurdly large; and (*b*) the septum being lifeless it was pushed into the right ventricle, when the pressure in the left heart greatly exceeded that in the right and thus tended to occlude the conus. We were therefore compelled to work with pressures of about 80 millimetres and 140 millimetres on the right and left sides respectively when we used both sides together, but we corrected our results by trying the left side alone at 200 millimetres. We found that no tendency to murmur arose in the aorta on doing so.

On the other hand, there were two circumstances which militated against the production of a pulmonary murmur

[4] I would here gladly acknowledge the great help which my able assistant and pupil, Mr. W. Billington, has given me; to his skill and ingenuity the success of this investigation is largely due. I would also heartily thank my colleagues, both medical and surgical, for the *carte blanche* way in which they gave over to me any hearts at their disposal. I feel greatly indebted to the forbearance of our pathologist, Dr. Douglas Stanley, for allowing me to use the post-mortem room as a laboratory for so long a period, and to the enthusiastic help and scientific knowledge of my house physician, Mr. W. H. Coltart, I indeed owe much.

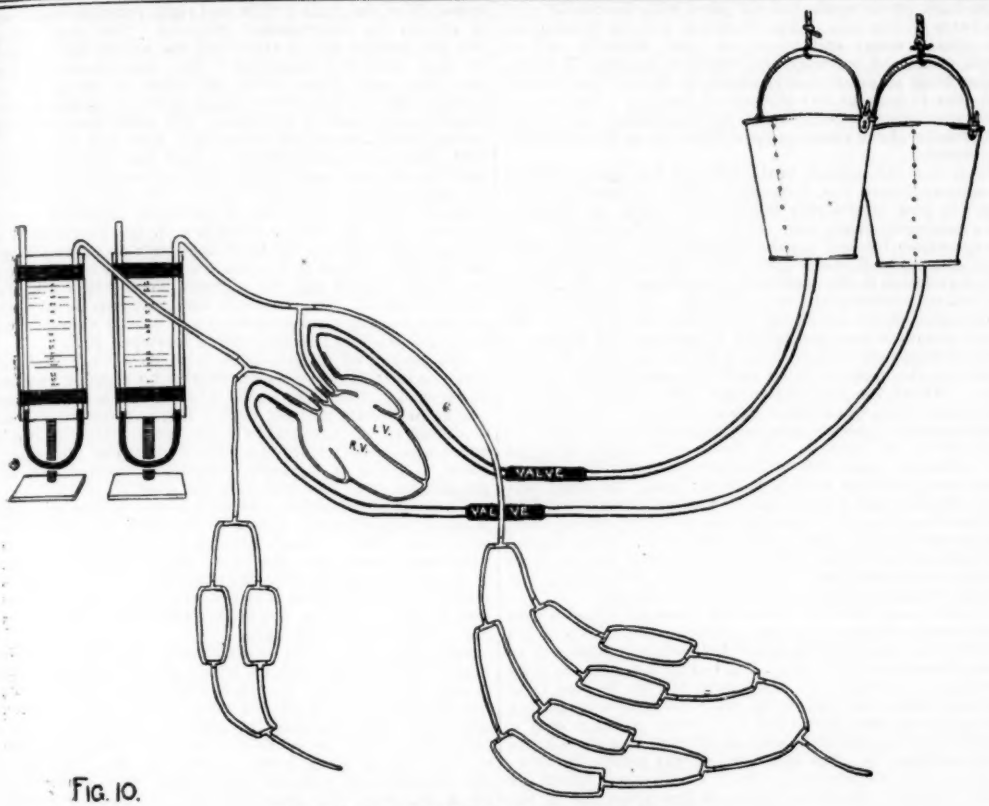
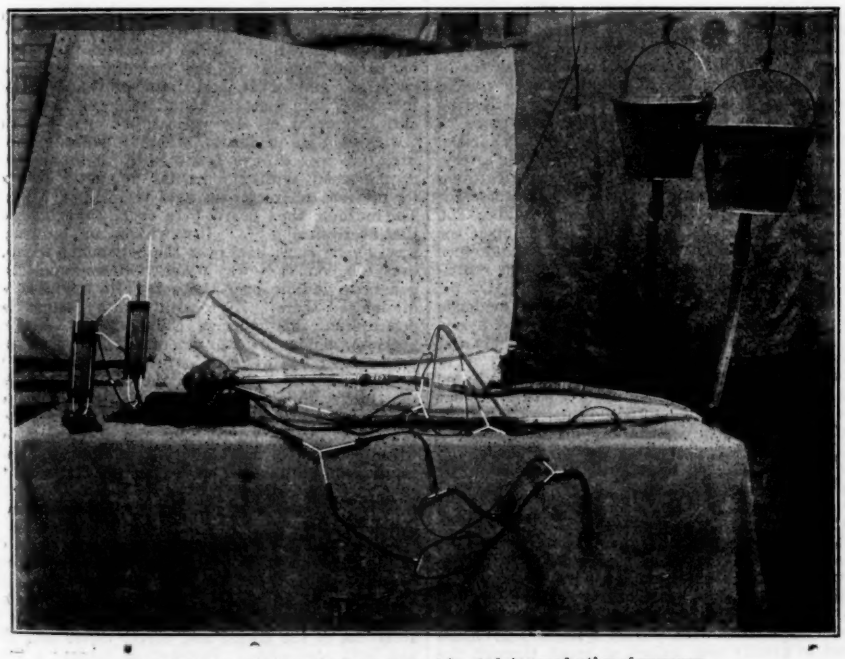


FIG. 10.

Diagram of arrangement for studying production of murmurs.



Reproduction of photograph of arrangement for studying production of murmurs.

after death by our method as compared with the condition of the heart during life. First, there was nothing to compress the dilated artery and conus, no rigid thoracic wall or aortic arch; and secondly, the weight of the glass T tubes, which hung perpendicularly, tended to stretch the arteries and thus to prevent any attempt at bagging. The first of these conditions we soon learnt the importance of, for any compression of the vessel by the stethoscope easily intensified the murmur.

Such was the method finally adopted, but many varieties of apparatus were first attempted. Most of these were too crude to give trustworthy results and I have not included the experiments made with them in the following list. At the same time I would say that they all bore out the same conclusion and not one of them gave a contradictory result.

One variation in the apparatus I must describe, as with it the first six experiments were performed. In this two easily compressed pieces of rubber tube took the place of the valves and these were constricted by pressing the edge of a piece of wood upon both with one's hands from 60 to 80 times a minute, the operator being guided by a watch laid on the table. Whilst the constriction was made diastole occurred and systole took place when it was removed. It is evident that the systolic pressure was now obtained by the weight of water from the buckets, and these were raised to equal 80 millimetres and 200 millimetres respectively. There were two objections to this method: first, the heart was never emptied and neither set of semilunar valves could be brought into play; and secondly, and most importantly from the murmur point of view, each ventricle and artery tended to become one dilated tube and a murmur due to local bulging would occur less readily than when the ventricle was steadily decreasing in size as the systole continued.

I regret to say that even including these six I have a very small number of experiments to present to you. Were it not that they all point the same way I should have hesitated to bring them forward at all. But it has not been an easy investigation to take up; the hearts had to be free from valvular disease and had to be made use of as soon as they chanced to appear, which did not always coincide with a period of leisure; moreover, each experiment took three hours in its performance. Not that I in any way grudge the time, for apart from the purpose in hand it has amply repaid me by the intimate knowledge which it has given me of the potentialities of the heart under varying conditions of strain. With this end alone in view it would be well worth the while of any young physician to repeat them.

Generally we were assisted in our observations by one or more of the hospital residents or senior students, and to remove as far as possible all tendency to bias no one stated his opinion till all had examined, and mine was stated last. Further, as we were generally ignorant of the cardiac condition before death we were able to maintain open minds. The method employed was not capable of investigating tricuspid or mitral murmurs, but incidentally it convinced us that pressure upon the pulmonary artery by the left auricle, with a murmur arising from the constriction of the artery, was a practical impossibility so long as the pericardium remained intact, for even when the auricle was subjected for a considerable time to systolic pressures approaching 200 millimetres it never dilated sufficiently to encroach upon the artery; not even when, as I have stated above, the difference of pressure was enough to so displace the septum ventriculorum as to occlude the conus.

Another collateral result was the negative evidence obtained as to the origin of the murmur in the aorta. Several times we experimented with the left side only and endeavoured to produce a murmur by subjecting it to pressures of over 200 millimetres Hg, using for this purpose hearts several days after their removal from the cadaver, but we never succeeded in gaining any dilatation approaching that of the pulmonary artery and only once obtained a murmur. Curiously, this murmur was the single exception which proves the rule, for (*vide* Experiment 21) on examining the aorta and its valves we found both the subject of aortitis, so that the murmur was no doubt an organic and not a functional sound.

Perhaps the greatest revelation which these experiments gave us was evidence of the manifold uses of the pericardium, especially the importance of its action as a cardiac support. We divested a sheep's heart of its pericardium and three hours after death it withstood the usual pressure (80 millimetres Hg on the right side) well, but 17 hours later it dilated so greatly and leaked so much through the substance of the right auricle and right ventricle that it was of no use for experimental purposes. The same dilatation and leakage had occurred with the human hearts which we had previously employed. The experiments did not, as a rule, take place within 20 hours of death, yet we thought that the breakdown might be due to disease and not simply to the death of the tissue. But after trying with one or two sheeps' hearts and finding that they gave way equally with those of human beings we kept the heart in its pericardium and were surprised to find its condition maintained for two or three days after death. We were thus at once provided with a ready way of producing dilatation of any portion—viz., by making a window in the pericardium at the spot and allowing the heart substance to bulge through the opening. When such a window was made over the aorta not much bulging and no murmur arose, but if a similar opening was cut over the conus and pulmonary artery considerable bulging always occurred and usually a murmur was developed whether this had existed previously or no.

The hearts we experimented with may be divided into three classes: (1) those which showed no signs of weakness either during life or after death; (2) those which, though weak, had no pulmonary murmur during life, but showed evidence of dilatation or degeneration after death; and (3) those in which a pulmonary murmur existed during life. (In some of these a mitral or tricuspid functional murmur was also present, but in no case was there any diastolic murmur.)

The method employed was as follows. It was first noted whether any abnormal sounds arose when the pericardium was intact; then a small portion was cut away over the pulmonary artery and the heart again auscultated. Still more was then removed till the dorsum of the artery and the conus arteriosus bulged into the gap, when the observation was repeated. Lastly, the whole pericardium was removed and a final auscultation made.

Generally, the results obtained were these: 1. Healthy hearts with the pericardium intact gave no murmur; when it was removed from the pulmonary artery and conus at first there was no murmur and often none arose even though the heart was subjected to repeated compression for a long time, but, as a rule, sooner or later, especially if the heart were kept a day or so, bulging of the unprotected portions arose and was accompanied by a murmur. On removing the pericardium entirely, though the heart as a whole greatly dilated, sometimes to twice the previous size, yet no murmur was detected. 2. Hearts in which no murmur was noted during life but which had undergone dilatation and, perhaps, some fatty change. Still no murmur occurred with the pericardium intact unless the pressure used were very great or the heart had been dead a long time (from two to four days), but on partial removal of the pericardium one nearly always occurred, and if it had been previously present it was increased, this increase again lessening or vanishing when entire removal of the pericardium was effected. 3. In the third class of hearts, where a murmur existed during life, this was always found with the pericardium intact, it increased with its partial removal, and reverted to its previous character on total removal of the pericardium. The murmur thus heard bore usually the characteristics of that heard during life. It was harsh and blowing, was heard most loudly sometimes over the pulmonary trunk, sometimes over the conus; it was never well conducted, and, though generally audible over the aorta, its loudness was greatly diminished there. Even with healthy hearts in an intact pericardium this murmur could always be produced by pressure, amounting to indentation, on the dorsum of the pulmonary; but whereas in healthy hearts this indentation had to be considerable, when the artery was already dilated far smaller indentation would induce a murmur. It was always very difficult to produce such a pressure murmur in the aorta, and on no occasion did a murmur arise in this vessel if the left heart alone were distended with fluid and compressed in the usual way. On the contrary, if the right side only were distended the pulmonary murmur arose as readily, or even more readily, than when both sides were distended.

Experiment 3.—The patient, a male, died from cystitis and suppurative nephritis. The condition of the heart before death was not known. After death all the four cavities were dilated and the left ventricle was hypertrophied. There was some fatty degeneration of the muscle and some atheroma of the mitral and aortic valves and of the aorta and both coronaries. Pericardium intact: a short systolic

murmur was best heard over the conus, but was also audible over the whole of the right ventricle, over the pulmonary valves, and the pulmonary artery; it was heard at the commencement of systole only, disappearing as soon as the artery was fully filled, and did not re-appear so long as a steady stream was maintained. Pericardium removed from the artery: the pulmonary artery at once bulged forward and to the left and became much dilated. In addition to the above systolic murmur the second part of the systole was also accompanied by another murmur, this latter becoming continuous when a steady stream was maintained. The pericardium was now cut away from the conus as well and this at once bulged prominently into the opening. Precisely similar but louder murmurs were again heard. Pericardium entirely removed: the sounds were the same as with the pericardium intact, but the continuous murmur could be at once reproduced by (considerable) indentation of the pulmonary artery.

Experiment 4.—A woman, aged 36 years, died from gangrene of the leg; no account of the heart was obtainable before death. After death the kidneys were found to be granular; the whole heart was much enlarged, the walls of both ventricles showing extensive fatty degeneration—that of the left ventricle was three-quarters of an inch thick, whilst the muscle layer of the right ventricle only measured $\frac{1}{12}$ of an inch. The valves of the right side were healthy; those of the left were thickened. Pericardium intact: no murmurs. Pericardium removed from the pulmonary artery and conus: short systolic murmur. With pericardium intact there was also a short systolic murmur if stethoscope indented the artery or conus.

Experiment 5.—Heart from a man, aged 39 years. Death occurred from pneumonia of the right upper and middle lobes. The temperature averaged 103° F. The specific gravity of the urine was 1020 with a cloud of albumin. The heart's apex was in the normal situation, but the impulse was feeble; there were no murmurs. After death the heart was soft and flabby; the muscle showed cloudy swelling. Pericardium intact: no murmur. Pericardium partially removed: murmur appeared *at once*. This case shows the tendency pneumonia has to especially weaken the conus and pulmonary artery.

Experiment 6.—Heart from a youth aged 19 years who had suffered from leukæmia and purpuric hæmorrhage with constant pyrexia, averaging 101° F. Red corpuscles, 1,890,000; white corpuscles, 206,000; hæmoglobin, 30 per cent.; specific gravity, 1035. The heart's apex was normal in situation, but pulsation was most marked in the fourth space. There were vertical dulness at the upper border of the third cartilage and right dulness at the left edge of the sternum. There were soft systolic murmurs at the apex and in the pulmonary area. The spleen and liver were enlarged. Pericardium intact: distinct systolic murmur over the pulmonary artery and conus, heard best just over the valves; it shortened on raising the pressure of the fluid in the left heart. This is the heart I have shown you distended with paraffin, therefore I can give you no description of its condition. On removing the pericardium from the artery only, the murmur is increased but, if anything, shortened. The artery has a distinct crescentic antero-sinistral bulge over which the coat seems thinned. The murmur is very well heard over the upper two-thirds of the right ventricle. On further removing the pericardium from the conus a distinct bulge of the conus is noted, even before any distension of it is produced. Now the murmur is louder than when the pericardium was intact.

Experiment 7.—A woman, aged 35 years, who had suffered from obstructed common bile-duct. Much hectic fever before operation; soon after operation she had an obstructed umbilical hernia for which no operation was permitted and which caused death. This heart was experimented upon four days after death in hot weather. It was somewhat decomposed and both valves were dilated. The muscle was pale and there was much fatty infiltration. Only the left heart was used to see if the aorta uncovered by pericardium could be dilated by pressure in a manner similar to the pulmonary artery. It was subjected to a pulsating pressure of 140 millimetres, but no dilatation of the aorta could be detected.

Experiment 8.—A woman, aged 50 years, who had suffered from chronic focal myelitis. After death the kidneys were granular, the coronaries were thickened, and the heart was fatty. No murmurs were mentioned as having been heard before death. At first the double circulation was well maintained with a pressure of 150 millimetres on the left and 80 millimetres on the right, but 24 hours later, whenever the circulation on the left side rose much above that on the right, the circulation in the latter ceased. This was no doubt owing to bulging of the septum towards the right and so occluding the cavity of the conus. Naturally, this could not occur during life, as then the septum is not inert but actively contractile. Pericardium intact; no murmur. With pericardium removed from the pulmonary artery only a systolic murmur arises. This remains unchanged when the pericardium is also removed from the conus, but vanishes with the complete removal of the pericardium. If free exit was given to the fluid from either aorta or pulmonary artery, so that these collapsed during diastole, then in *either* vessel a murmur arose with their re-distension in systole. This indicates the power a flabby vessel which cannot contract firmly on its contents possesses of producing a murmur. Is this the cause of the murmur which occasionally arises in the pulmonary area immediately after a large hæmorrhage?

Experiment 9.—A man, aged 72 years, who suffered from fracture-dislocation of the cervical spine. No observations were made before death. After death the heart was much decomposed and somewhat dilated. Pericardium intact: systolic murmur over the pulmonary artery and conus. Pericardium removed from the pulmonary artery and conus: the systolic murmur was longer and louder, but the change was not marked.

Experiment 10.—A man, aged 29 years, who died from carcinoma of the liver. There was nothing abnormal in the heart before or after death. Pericardium intact: no murmur.

Experiment 11.—The patient was a man who died from depressed fracture and cerebral hæmorrhage. No notes of the heart were taken before death; after death the heart was healthy but much decomposed. Pericardium intact: no definite murmur. Pericardium partially removed: definite systolic murmur.

Experiment 12.—The patient was a man who died from general tuberculosis. Before death no note was taken of the heart; after death all the cavities were dilated and the muscle was pale and flabby. Pericardium intact: no definite murmur. Pericardium removed from pulmonary artery and conus: quite definite systolic murmur. Pericardium also removed from aorta: systolic murmur less well heard. Pericardium entirely removed: sounds same as with it intact.

Experiment 13.—A woman, aged 40 years, who died from fractured jaw, gangrene, and pneumonia. No notes were taken concerning the heart before death. After death it was very flabby but fairly muscular and of moderate size. Pericardium intact: a feeble systolic murmur was heard, but when the peripheral resistance was too small to keep the pulmonary artery distended then the murmur became loud and harsh, especially during the first half of systole before the artery was fully distended. The murmur could be heard over the aorta and conus but was only feebly conducted. Pericardium removed from pulmonary artery: murmur became more marked and longer. Pericardium removed entirely: murmur almost vanished. There may have been a pulmonary systolic murmur in this case before death as there was pneumonia, which puts special strain on the right ventricle; but, if not, the heart was very weak and no doubt acted feebly before death at a much less pressure than that to which we subjected it; our greater pressure was sufficient to produce dilatation with its consequent murmur.

Experiment 14.—The patient was a man, aged 50 years, who suffered from subacute nephritis. For two days after admission there was a distinct pulmonary murmur; this afterwards vanished.[5] After death the liver was somewhat fatty and there was much general œdema. The coronaries were much thickened, the tricuspid valve measured five and a quarter inches in circumference and the pulmonary four and a half inches; the wall of the left ventricle was seven-eighths of an inch in thickness, that of the septum was three-quarters of an inch, and that of the right ventricle from one-quarter of an inch to three-sixteenths of an inch. The pulmonary artery appeared considerably dilated but the conus not more than the rest of the right ventricle and not so much as the right auricle. Pericardium intact: systolic murmur was heard but no diastolic. Pericardium removed

[5] This is interesting as showing the effect of rest from short exertions on the cause of the pulmonary murmur, for the man was too ill on admission to have lately undergone any lengthened labour. Hence he had no mitral leakage; and, with the relief from any special strain given by rest, he soon ceased to have a pulmonary murmur, though the artery remained weakened and easily dilatable.

from pulmonary artery or from whole heart produced very little difference in the nature of the systolic murmur, but the experiment was continued for a short time only so that not much stretching could occur.

Experiment 15.—The patient was a youth, aged 16 years, who suffered from acute anæmia following a blow on the head eight weeks previously. On August 13th the red corpuscles equalled 770,000, and the white corpuscles equalled 2000; hæmoglobin equalled 15 per cent. On August 27th the red corpuscles equalled 450,000, and the white corpuscles equalled 2000; hæmoglobin equalled less than 10 per cent. Red cells varied in size and outline but there was no marked poikilocytosis; the white cells were chiefly lymphocytes. The apex beat was slightly internal to the left verticle nipple line in the fifth space; there were systolic murmurs in the mitral and pulmonary areas. There was a venous hum in the neck. After death there were marked emphysema, œdema, and collapse of the lungs. There were some submucous hæmorrhages in the alimentary tract and the solitary glands were much enlarged. The heart's apex was in the left verticle nipple line and the fourth space; the pulmonary valves lay beneath the middle of the first left space. The pulmonary artery was not markedly enlarged but the tissue of the conus was fatty. Pericardium intact: a systolic murmur was heard best on the left side of the pulmonary artery, next best on the right side, and scarcely at all on the dorsum. As the compressions continued (and dilatation increased) the murmur grew louder. Pericardium removed from conus and artery: the murmur was increased and continued to increase as the heart continued to give; it was still heard best in the same situations and scarcely at all over the aorta. Pericardium quite removed: heart dilated greatly but the murmur grew less loud.

Experiment 16.—The patient was a man, aged 47 years, who suffered from hepatic cirrhosis, œsophageal hæmorrhage, and ascites. After a severe hæmorrhage an apical systolic murmur appeared, which lasted a week, then vanished, and did not re-appear.[6] The apex beat was in the fourth space one and a quarter inches without the left verticle nipple line. There was vertical dulness up to the lower border of the second space. There was right dulness at the left edge. A systolic murmur was heard in the first four left spaces and slightly at the apex beat, but chiefly in the second and third. After death the apex beat was in the fourth space three and a half inches from the middle line; the right edge was one and a quarter inches from the mid-line (opposite the fourth cartilage). The heart was enlarged and fatty; there was some atheroma, especially of the coronaries. Pericardium intact: a slight systolic murmur. Pericardium removed from pulmonary artery and conus: systolic murmur more marked. Pericardium entirely removed: systolic murmur much less distinct.

Experiment 17.—The patient was a man, aged 31 years, who suffered from acute pneumonia. Heart dulness was normal and there were no murmurs. After death the heart was seen to be very large: the tricuspid measured six inches and the pulmonary artery four inches. The wall of the left ventricle was fatty and there was some myocarditis. Pericardium intact: no murmur. Pericardium removed from conus and pulmonary artery: distinct but soft murmur. Pericardium entirely removed; a much less distinct murmur.

Experiment 18.—The patient was a man, aged 32 years, who suffered from fractured base. This was the same heart as that used in Experiment 2. It was macroscopically healthy, but as the experiment was performed 80 hours after death considerable decomposition and weakening of the walls had no doubt taken place. Pericardium intact: at first a soft murmur was heard both over the pulmonary artery and the aorta; it was then noted that there was a bulge of the pulmonary artery on its aortic side where the pericardium had been torn away; the pericardium was drawn over this bulge and stitched together, then this murmur vanished. Pericardium removed from conus and pulmonary artery: the usual loud systolic murmur was heard over the pulmonary artery and the aorta. Pericardium removed entirely: no murmur heard.

Experiment 19.—The patient was a man, aged 25 years, who died from a fall of 40 feet. There was no disease of any organ. The heart was large but in good condition. Pericardium intact: no murmurs. Pericardium removed from conus and pulmonary artery: no murmur, but first sound became impure.

Experiment 20.—The patient was a man, aged 23 years, who suffered from subacute Graves's disease and who died from shock two hours after removal of the goitre. Before death the apex beat was in the fifth space (half an inch external to the left vertical nipple line). There were vertical dulness in the upper border of the fourth cartilage and right dulness at the left edge of the sternum. There was a systolic murmur at the lower border of the third left space, loud and harsh, rough and short; it was well conducted upwards on both sides of the sternum and reached the vessels of the neck and was much increased by pressure of the stethoscope. Only a partial post-mortem examination was allowed. The organs were removed through the wound. The lungs, pleuræ, and liver appeared to be healthy; no adhesions were noted in the chest or the abdomen. The heart also seemed healthy, the wall of the left ventricle being in remarkably good condition, but that of the right ventricle was thin. With pressures of 80 and 200 millimetres the following results were obtained. With the pericardium intact a harsh and loud systolic murmur was heard, chiefly over the conus; it was heard very slightly in the pulmonary artery, no better, in fact, than it was in the aorta. Also a loud murmur was heard in the same situation throughout the diastole; this was when the venous (diastolic, pressure in supply pipes) was 50 on each side and it became faint on lowering this pressure to 15. If the pressure in the pulmonary circuit was increased the systolic murmur was intensified, and when this pressure reached 200 its loudness was doubled. It was noted that as the pulmonary pressure approached that in the aorta the systolic murmur was better conducted to this vessel. On removing the pericardium from the aorta the audibility of the systolic murmur over this vessel was lessened. On removing it from the pulmonary artery and conus the systolic murmur became louder and was well heard all along the pulmonary artery; but it was less well heard in the aorta, especially if the difference of pressures was maintained. With the pericardium entirely off the systolic murmur was as when the pericardium was intact, except that it was better heard along the pulmonary artery.

Experiment 21.—The patient, a man, aged 31 years, died from acute anæmia of four weeks' duration. The liver and spleen were enlarged. The apex beat was at the fifth rib and the left vertical nipple line. There was vertical dulness at the upper border of the third cartilage and right dulness a little to the right of the left edge of the sternum. Systolic murmurs were heard over the apex and pulmonary area and a soft systolic murmur, probably conducted from the left, in the second right space. After death the heart was flabby but not much dilated. The tricuspid valve measured $5\frac{5}{8}$ inches, the aortic valve $3\frac{1}{4}$ inches, and the pulmonary valve $3\frac{1}{2}$ inches in circumference. Scattered throughout the aorta and reaching up into the innominate and left carotid were remarkable bosses, almost ulcerated in places, of acute inflammation (hæmorrhagic aortitis). Pericardium intact: systolic murmur was heard; this was unusually well heard in the aorta, sometimes so well heard there that it was doubtful in which vessel it arose [cf. condition of aorta and murmur of aortic degeneration]. Pericardium removed from conus and pulmonary artery: the murmur was much increased, but more over the pulmonary artery and conus than over the aorta. Pericardium entirely removed: murmur very feebly heard. Pressure on the pulmonary artery much more easily induced a murmur than similar pressure on the aorta even when tension in both vessels was the same.

I trust that I have convinced you of two things: first, that in cases of cardiac debility there is often a localised dilatation of the conus arteriosus and pulmonary artery, and, second, when in these cases a murmur arises in the second and third left spaces this murmur is due to such localised dilatation. But before I finish, though I have done what I set myself to do, yet I would like to point out several *a priori* reasons why we should expect such dilatation to take place. Debility is not a local but a general disease; the whole body is enfeebled owing to an insufficiently energetic metabolism. The heart also suffers as a whole, no one portion of it being more enfeebled than the rest. The weakness of the left ventricle is shown by the small and feeble pulse, incontrovertible evidence that the ventricular cavity is only partly emptied at each systole. But this does not mean any special failure on the part of the left ventricle; there is nothing to show that it is unable to keep pace with the lessened needs of the debilitated body. The body and ventricle fail together and equally, and hence there is no reason why the ventricle should show signs of strain. Both

[6] The patient was confined to bed, vide Experiment 14. If he had been up and about no doubt the murmur would have continued.

ventricle and body will tire soon; they are incapable of continuous toil, mental or physical, but they get tired together and so neither suffers undue strain.

If this is the case with the left ventricle, why should it not be so also with the right? It would be if everybody were debilitated; if we lived in a land where it was always afternoon, a land of sloth and idleness. But the surroundings of the sufferer from debility are too much for him; he cannot avoid catching somewhat of the spirit of emulation; moreover, this same debility renders his nervous system more irritable, less capable of self-control, so he tries to keep pace with the healthy ones around him and however much he may strive to take life easily he must work against time now and then. The schoolboy is told to do as many sums as he can in an hour, he has to rapidly answer questions passed from one to another, he plays games which ever and again necessitate sharp bursts of exertion. The housemaid has to run upstairs quickly to answer her mistress's bell, is bound to carry heavy trays and scuttlefuls of coal—all these short, strenuous exertions are a healthful stimulus to the normal constitution, but to the debilitated they come as a breathless and exhausting labour. It is true the sufferer cannot keep them going for any length of time; he soon is obliged to leave them undone or finish them very slowly; thus he saves his left ventricle and body generally. In course of time experience teaches him perhaps to forego attempting their initiation, but experience, though an excellent, is yet a costly teacher; often, especially if the patient be young, the mischief is done ere the lesson is learnt. On what part of the body falls this mischief? What portion has to sustain the brunt of the shock of any sudden exertion—has to play the buffer to the rest? I think it is the lungs and next the right ventricle.

Physiologists [7] tell us that the first result of exercise is an increase in the rate and depth of the respirations—that is, of the respiratory exchange. That the respiratory quotient, $\frac{CO_2}{O_2}$, is not increased, but if anything diminished: in other words, the tissues are as rich (or richer) in oxygen during exercise as during rest. This necessitates a great increase in the absorption of oxygen at this time; for E. Smith has shown that a man gives off 10 times as much carbonic acid when on the treadmill as he does when asleep. But what I would particularly draw your attention to is this—that arm work, *per unit of work done*, requires a greater absorption of oxygen than climbing, and climbing than walking on the level. If the amount of oxygen absorbed during sleep per minute be 100 grammes, then in a minute's walking at three miles an hour on the level it would be 500 grammes; in climbing a yard high 5000 grammes, and in doing the same amount of kilogrammetres by turning a wheel (arm work) 7000 grammes.

Such an enormous increase in the absorption of oxygen and giving out of carbonic acid must seriously strain the resources of the organs concerned. The lungs are rarely at fault for they have so much unused tissue which they can bring into play and so many extraordinary muscles that they rise equal to almost any emergency.

This increase in pulmonary action is probably brought about by some product of muscular activity stimulating the respiratory centre of the medulla, but such stimulation would be of small avail were not the right ventricle similarly stimulated to supply the lungs more rapidly with blood. Such a stimulus is provided by the extra flow of blood from the veins, this being induced by the aspirating action of the increased inspirations. Thus, as regards the circulatory system, on the right ventricle and pulmonary artery falls the first brunt of the extra labour; and when this is undertaken suddenly, as in a run upstairs, the shock it gives to these organs must be extremely great.

It is true that the extra toil must soon fall on the left ventricle also, but it does so more gently and with far less suddenness, for (*a*) the extra blood can only reach it through the devious elasticity and dwindling pressure of the pulmonary system; (*b*) the systemic circulation in debility is but partly full, so that several systoles are occupied in properly filling this and thus the left ventricle is allowed a short period in which to brace itself up for its extra work; (*c*) if it be unequal to this extra work it can easily refuse to receive all the blood sent to it, for it is no strain on a high-pressure cylinder to reject fluid sent it from a low-pressure one through elastic tubing; (*d*) if it does so reject the blood the great dyspnœa thus excited soon puts an end to the patient's exercise and thus at once eases the left ventricle, whilst the blood thus blocked in its flow through the lungs must be a terrible additional shock to the right heart and pulmonary artery; (*e*) in any case general exhaustion soon stops any sharp, strenuous toil on the part of a sufferer from debility, hence the left ventricle is not likely to be severely taxed.

Again, the increase in respiration must increase the difference in the intra-thoracic pressures in inspiration and expiration; this may be from five to ten millimetres Hg. Such a difference, rapidly produced and constantly repeated, must have a considerable dilating influence upon an artery so distensible as the pulmonary, the capacity of which, according to Roy, is increased twelve times by raising the pressure from 0 to 36 millimetres Hg.

As a negative proof of this contention let me draw your attention to a case where a debilitated subject was carefully guarded from all these sudden exertions and where the heart failed, it is true, but failed in a very different manner from that which I have been describing.

CASE 31.—The patient was a married woman, aged 36 years. She was never very strong; for a week she had not been as well as usual. She was admitted into hospital immediately after a large hæmatemesis—more than one pint. There were no murmurs on admission; the pulse was hæmorrhagic with occasional dropped beats. Examination of the blood on admission revealed red corpuscles, 1,560,000; hæmoglobin, 25 per cent.; and white cells, 13,000. One month later, with the patient still lying in bed in the hospital, there was no pulmonary murmur but both a mitral murmur and a tricuspid murmur. The apex beat reached the fourth space just within the left vertical nipple line. There was vertical dulness at the middle of the third space and right dulness half an inch to the right of the right edge of the sternum. This was a very different outline from that which I have described to you as occurring in debility. The blood, though better, was still poor—viz., red corpuscles, 2,800,000; white corpuscles, 10,000; hæmoglobin, 30 per cent. Here the heart had shared in the debility arising from a severe hæmorrhage in a weakly subject, but no part of it had been subjected to more strain than the rest. The patient had been kept in bed on a low diet apart from all domestic worries. Her physical exertion was of the smallest possible amount and what she did could be done as slowly as she pleased. Hence both ventricles underwent a general dilatation, allowing leakage through both auriculo-ventricular valves. If she had been up and about endeavouring to go on with her maternal and housewifely duties I have no doubt in my own mind that her cardiac outline would have been typical to a marked degree of that characteristic of debility, whilst a pulmonary murmur would not only have been present, but would have been the chief of the three; but, as it was, the heart gave no evidence at all of any special enlargement of the conus or of a pulmonary murmur.

Such cases as this, as well as those previously mentioned which showed no pulmonary murmur, though not seldom a mitral, as long as the ill-nourished frame was kept at rest in bed, but in which one often arose when the patient was allowed to be up,—such cases seem to me to be exceedingly strong evidence in favour of the view that it is sudden sharp exertion which produces the peculiar localised failure of conus and pulmonary artery.

It is, of course, quite common for hearts of debilitated subjects who are leading an active life to give way altogether and allow tricuspid and mitral leakage, but when they do they never fail to show the large increase in the vertical dulness which is absent in the case just described; the general giving way is an addition to the special and initial failure; the vertical dulness remains raised but the right and left dulnesses become increased also.

If, as I have tried to show, the right ventricle should be the first to yield, it is not difficult to understand what part of it should first give way.

We may consider the whole ventricle as one half of a cone which has been bisected from apex to base (Fig. 12); the stout septum ventriculorum forms the triangular surface of section and as the left ventricle does not fail, no more will this septum; hence we may look upon the ventricle as a triangular board to which is attached a semicircular convexity of rubber; it is evident that this yielding rubber will stretch most where it is

[7] Pembrey in Schaefer's Physiology, vol. i., pp. 714 et seq.

least restrained by the rigid triangle[b]—viz., along the semicircular border of its base. Also that the portion of this border which will stretch most will be the conus, for the lowest part is held in check by the unyielding, rigidly fixed inferior vena cava and the middle portion by the chordæ tendinæ of the tricuspid valve and their stout musculi. Further, the direction of the blood-current is from the apex

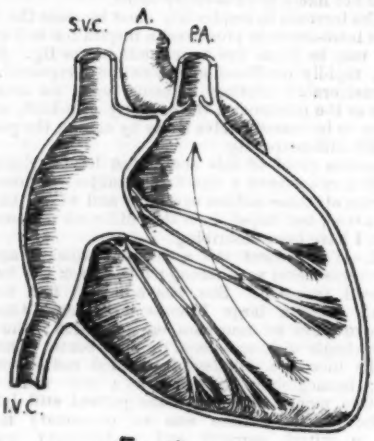


FIG. 12.

The arrow represents the flow of blood during systole; the portion of the ventricle subject to the longest and severest tension will be that surrounding the arrow-head—i.e., the conus.

towards the pulmonary valves; the conus will tend to give, therefore, most in the direction where it is longest distended with blood.

Given this dilatation of the conus that of the pulmonary artery is easily explained. The dilating conus carries the valves upwards and thus shortens the length between the two extremities of the artery. The artery becomes lax and when distended with blood enlarges in its transverse diameter, so that its wall may occupy the same superficial area. Finally, we must remember the easy distensibility of the pulmonary artery, which is proportionately, after due allowance is made for the different tensions at which they work, some six times that of the aorta.

I have forborne all reference to authorities. I trust that this will not be put down to any lack of respect to other workers in the same field of inquiry. It is simply because I found them to be so many and so important that if I had once begun to quote and, necessarily, often to combat others' views there would have been no time left to place my own before you.

I have finished, and if these views do not commend themselves to your judgment believe that this want of conviction is due to my feebleness of exposition and not to their lack of truth. But at least I trust that this lecture will give some impetus to the study of this common and important cardiac condition, and that we shall not rest till not only this but all allied functional cardiac states are settled to our individual satisfaction and our text-books speak with no uncertain sound both of their phenomena and clinical importance. For myself I trust in subsequent papers to still further elucidate such matters as are germane to the discourse which it has been my high privilege to deliver this afternoon.

[b] This helps also to show why the enlargement of the right ventricle in mitral disease assumes a different form, for in this case the septum has already become itself stretched along with the rest of the left ventricle.

THE SANITARY INSPECTORS' EXAMINATION BOARD.—The first examination for certificates of qualification for appointment of sanitary inspector under Section 108 (2) (d) of the Public Health (London) Act, 1891, will be held in London on Tuesday, Dec. 5th, 1899, and the four following days. Particulars will be forwarded on application to the honorary secretary, Mr. W. R. E. Coles, 1, Adelaide-buildings, London Bridge, E.C.

A Clinical Lecture

ON

THE TREATMENT OF CERTAIN FORMS OF NEURALGIA BY THE INJECTION OF OSMIC ACID.

Delivered at St. George's Hospital on March 7th, 1899.

BY WILLIAM H. BENNETT, F.R.C.S. ENG.,

SURGEON TO THE HOSPITAL; MEMBER OF THE COURT OF EXAMINERS, ROYAL COLLEGE OF SURGEONS OF ENGLAND, &c.

GENTLEMEN,—There is a case in the Wright's ward upon which some of you saw me operate a short time since with a view to the relief of sufferings due to trigeminal neuralgia.

The patient is a woman, aged 66 years, who was admitted into St. George's Hospital under the care of Dr. Ewart. For eight years she had suffered from spasmodic tic. At its onset only a small area above the left eyebrow was affected, but by degrees the pain extended until the three divisions of the fifth nerve were all more or less involved. Within the 18 months prior to her admission the pain had become more acute but somewhat less diffused, and her general health, as is common in these cases, had not been much affected excepting from loss of sleep, which during the previous nine months had reduced her considerably. Upon her admission she was found to be a fairly nourished person with an anxious aspect. At intervals varying from ten minutes to several hours she was seized with attacks of pain (with spasm) which, commencing just below the left eye, extended round the orbit and over the forehead, finally concentrating itself about a spot near the centre of the vertex of the skull. Occasionally, but not always, the pain shot downwards along the lower jaw. The attacks were easily started by a drink of cold water, by a cold draught of air on the cheek, or by manipulation. The tongue was free from pain and taste was unaffected. As is usual, the severity of the condition varied a good deal at different times, but in the aggregate the symptoms reduced her life to such a miserable state that she was prepared to submit to any treatment, however severe, which promised to afford even temporary relief. As all measures at the disposal of the physician, including the continuous current, had been tried without avail, it was clear that nothing remained but surgical interference. Under ordinary circumstances two surgical alternatives suggest themselves in such a case: (1) the exposure and avulsion of the distal end of the three divisions of the trigeminal nerve; and (2) the resection of the Gasserian ganglion. The former operation is uncertain and not altogether satisfactory; the latter is too severe an operation in itself and, if current reports are to be credited, its immediate risk is too great to render it an operation to be adopted excepting under very extreme circumstances. Indeed, so far as I am concerned, it is an operation about the justifiability of which under any circumstances there is room for some doubt; if, however, the operation is right in any case it certainly would have been so in that of this woman. Fortunately I have of late had a considerable experience of the treatment of certain forms of neuralgia by the intra-neural injection of osmic acid. This method does not seem to have had much trial in this country for, with the exception of a case reported at the Medical Society of London by Mr. G. R. Turner, I do not remember any records of cases in detail, although notes concerning the treatment have appeared from time to time in the medical journals. My previous experience of the treatment having been entirely favourable I adopted it in this patient, injecting a solution (1·5 per cent.) of osmic acid into the terminals of the three divisions of the fifth nerve on Feb. 21st, 1899. The immediate effect of the injections was to put an end to the pain almost entirely and what remained disappeared by degrees in the course of a few days, leaving the patient perfectly free from discomfort and sleeping well, which she had not been able to do for several years. The little wounds necessary for the exposure of the nerves healed by primary union in two

days and it is now a matter of some difficulty to discover their site.

CASE 2.—The first case to which I applied this treatment in St. George's Hospital was that of a man, 44 years of age, who was admitted originally under the care of Dr. Ewart in May, 1897. His history was rather remarkable. He had been under treatment at another hospital on account of some enlarged glands on the left side of the neck which were in due course removed. Six months later a recurrent mass appeared in the same situation and a second operation was performed which, judging from the nature of the scar, was very extensive. Now comes the singular element in the case. Before the second operation he was absolutely free from pain, the tumour causing no inconvenience of any sort beyond that which arose from its mere existence. Upon recovering from the anæsthetic he was suffering severe lancinating pain, "exactly like a very bad toothache," which, starting from the seat of operation, shot upwards along the side of the mandible. Increasing its area, the pain in a few days spread over the left side of the forehead, terminating finally over the middle of the scalp on the left side. From the time of his becoming conscious after the operation to the date of his admission into St. George's Hospital nine months later the patient had suffered with very short interruptions from this pain, which latterly had become intolerable from the addition of intermittent attacks of spasms affecting the left side of the face. Upon coming under observation the case had all the characteristics of a complicated and exaggerated example of trigeminal neuralgia and the whole of the three divisions of the fifth nerve appeared to be involved. The case, however, presented one remarkable feature—viz., that the attacks of spasm could be excited with great intensity if the slightest pressure were made over the upper end of the scar of the operation wound in the neck, and by increasing the pressure vertigo was produced which finally caused the patient to fall to the ground. Medical measures having failed to give any material relief I saw the patient in consultation with Dr. Ewart. Although, having regard to its complicated and unusual character, the case could hardly be regarded as a favourable one for testing the treatment I applied the injection of osmic acid to the three divisions of the nerve in July, 1897. The effect was the complete cure of the pain and spasm which, greatly relieved immediately by the operation, disappeared entirely in the course of ten days. The man has since developed symptoms of intracranial tumour, but no return of the trigeminal pain or spasm has occurred.

CASE 3.—The patient was a man, 40 years of age, a country labourer, who was admitted into St. George's Hospital on Dec. 3rd, 1896. He was healthy and strong until about four years before his admission, when during harvest time he, being at the time very hot and in a great sweat, plunged his head into a bucket of cold water. The immediate effect of this was intense pain over the whole face which persisted for several hours and then passed off. Nothing further was noticed for a month, when to the patient's dismay the pain returned in the left side of the face, at first only in a slight degree, but increasing later until it became intolerable. Intervals of freedom occurred, ending all at once in pain as if he had been "struck by a red-hot iron." This pain commenced on the cheek under the eye and culminated in spasms which caused the whole of the affected side of the face to twitch, the head at the same time being twisted round. Sleep at length became impossible and he came to the hospital for relief. Under medical treatment he was made to some extent more comfortable, and he left the hospital on Dec. 17th, 1896. On July 6th, 1898, he was re-admitted under the care of Dr. Ewart in a pitiable state with characteristic extreme trigeminal neuralgia. The least touch on the cheek, attempts at eating, or any cold draught of air brought on attacks of intense pain and spasm of the left side of the face, the head being twisted in a most distressing manner. On July 12th I applied the osmic acid injection to the divisions of the fifth nerve (supra-orbital, infra-orbital, and mental branches). Much relief at once followed and all pain and spasm had disappeared in a fortnight, although a little irritation about the infra-orbital wound caused slight delay in healing. He left the hospital on August 6th well and up to the present time remains in the same condition.

CASE 4.—The patient was a man, about 30 years of age, who was brought to me by Dr. Ewart in July, 1898. For six years he had suffered from characteristic spasmodic tic, the attacks starting, as is so frequently the case, just over the infra-orbital foramen. At first the attacks were slight and caused little more than annoyance; by degrees they grew worse until the whole side of the face seemed to be gathered up in one great spasm, the pain of which was indescribable. It was thought that the origin of this case lay in some irritation caused by an unerupted wisdom tooth. This was removed without any benefit, indeed the pain seemed to increase rapidly after the extraction. Sleep became impossible except when the heaviest narcotics were taken, in which case spasm occurred even during narcosis. So far as the objective evidence of pain was concerned I have never seen a more exaggerated case; the contortion produced by the spasms was extreme and perspiration poured from the forehead and face during the attack. The injections of osmic acid were applied, as in the other cases, to the divisions of the fifth nerve and the same results followed. The bulk of the pain was immediately removed by the operation and by the end of the week it had disappeared with the exception of a very small area which seemed to be connected with some external branch of the infra-orbital nerve. I concluded, therefore, that the injection must have missed some small filament, so I exposed the nerve again and repeated the injection with the result that the pain disappeared. The patient subsequently returned to his business, which he had been compelled to relinquish, and up to the present time remains well.

CASE 5.—This was the case of another private patient who was sent to me by Dr. Cooke of Bath. She was 68 years of age and had suffered for two years from severe spasmodic tic which commenced with some pain about the alveolar border of the left upper jaw. Increase of the symptoms occurred as in the other cases, until rapid weakness began to supervene from the combined effects of insomnia and inability to take sufficient nourishment, as any attempt to eat started violent spasms. In this case the pain involved the left half of the tongue and the whole trigeminal area of the face. She was a most courageous patient, being quite prepared to undergo any treatment, even if her life were sacrificed. The injections of osmic acid were used as in the other cases and with the same results. Ten days after the operation this patient, who had known no certain relief from pain for two years, who had during the same time slept but little and who was being practically starved in consequence of the difficulty of taking nourishment, was apparently well. The operation was performed on Oct. 2nd, 1898, and up to the present time she remains well, there being no sign of recurrence.

The repetition of cases of the same kind becomes tedious; I need therefore only mention that two other cases (Case 6 and Case 7) treated in private practice resulted in the same way.

CASE 8.—This case, treated in St. George's Hospital, is perhaps in itself hardly worth mentioning and I only refer to it as I wish to record my whole experience of this treatment. The patient was a man upon whom I had already operated several times for trigeminal neuralgia. The superior maxillary nerve with Meckel's ganglion had been removed and later the inferior division below the foramen ovale had been avulsed. These proceedings, although they did not cure him, left him in a condition which would have been tolerable had it not been for acute pain which continually shot obliquely downwards over the right buccinator muscle. As I did not see my way to any further resections or avulsions I made three injections of five minims each into the buccinator muscle through the cheek along the line of pain, the injection being made by an ordinary hypodermic syringe. The result appeared at first to be an entire failure, but a fortnight later the man reported himself as free from the buccal pain. Whether the disappearance of the pain was the result of the injections or a mere coincidence I cannot say.

The cases related at present have all been instances of spasmodic tic (trigeminal neuralgia). The apparent success of the injections of osmic acid in these seemed to point to the method as being admirably adapted to certain cases of painful spasm in stumps after amputation which sometimes, as all surgeons unfortunately know, are most difficult to deal with effectually.

CASE 9.—This afforded me my first opportunity for testing the method in such cases. A man, aged 45 years, was originally admitted into St. George's Hospital in 1893 on account of a painful stump of two years' duration, following

upon Syme's amputation which had been performed elsewhere. Re-amputation was performed immediately below the knee. Twelve months later—i.e., in 1894—the pain, which had never been quite relieved by the re-amputation, recurred with considerable intensity, but until the middle of 1898 had not become so bad as to be quite unbearable. About Christmas, 1898, however, it became so severe that the patient could tolerate it no longer and he applied for admission to St. George's Hospital. He was admitted under my care on Feb. 15th, 1899. The right leg had been amputated below the knee. The scar was sound, the stump, so far as appearances went, was an excellent one, and no bulbous nerve-ends could be felt. Extension at the knee was impossible, as any attempt in that direction started the most violent and uncontrollable spasms which occurred even when passive attempts were made at extension under an anæsthetic. The stump was hyperæsthetic generally to an extreme degree and the least touch on any part of the end of it produced these spasms, the pain of which was at times so great that the patient cried out loudly. The stump was such an excellent one for the purposes of an artificial limb that any further amputation was extremely undesirable. I therefore exposed the popliteal and peroneal nerves in the popliteal space and made three injections (five minims each) of osmic acid solution into both. The wounds healed by primary union; all pain had disappeared in three days, at the end of which the patient could extend the stump perfectly without any trouble or discomfort, and at the end of a week it could be handled without any pain or other inconvenience being excited. This case must, I think, be allowed to be a striking one.

CASE 10.—This case is somewhat similar to that which I have just described. A patient whom I saw in private practice, 43 years of age, had received a wound of the wrist from some broken glass seven or eight years previously. Considerable loss of power in the hand followed, but being in independent circumstances he was enabled to shoot and to amuse himself generally until a swelling which formed in front of the wrist immediately above the scar of the wound became so painful and sensitive that the hand became useless, because any attempts at using it led to the starting of the pain in the swelling; and, further, any touch upon the swelling, however slight, was acutely painful. When he came under observation it was clear that the median nerve had been divided immediately above the wrist with the exception apparently of a few filaments. The movements, &c., controlled by the ulnar nerve were perfect. A little above a transverse scar on the front of the wrist was an exquisitely sensitive globular tumour of about the size of a filbert lying close under the skin, obviously a bulbous enlargement of the median nerve at the seat of injury. The remoteness of the date of the receipt of the injury rendered the rejoining of the divided ends hopeless so far as any improvement in the power of the hand was concerned, and for other reasons the patient was averse to any operation which would render supervision necessary for more than two or three days. Seeing that nothing more could be effected in this case than the removal of, or rendering insensitive, the tumour, I thought it a fair opportunity for the trial of the osmic acid method. Three injections of seven minims each were therefore made into the healthy median nerve immediately above the bulb. The result was all that could be desired; the pain and hypersensitiveness disappeared in four days, and so far as its power permitted the hand could be used without pain of any kind.

It must, I think, be allowed that this series of cases is from the point of view of treatment worthy of consideration, although it is true that none of the patients have yet been sufficiently long under observation to enable any final judgment to be formed as to whether the results obtained are permanent or not. I shall, however, make a point of keeping in touch with the patients and later will report upon their condition. A very hopeful factor is afforded by the course of the cases after the treatment, for, as will be seen in the accounts of them, although the operation did not give immediate complete relief, such symptoms as continued gradually diminished and finally disappeared altogether, indicating a progressive action on the part of the injections for some time after their application. This may, I think, be considered as rather strongly in favour of permanence in the results, especially as it is exactly the reverse of what occurs in cases of a similar kind when resection or avulsion of the nerve is practised. In these immediate complete relief is the rule, but for a comparatively short time only, as recurrence follows almost as a matter of course. Rare exceptions to this are from time to time met with. I have, for example, recorded in the *Clinical Journal* a case of avulsion of the superior maxillary nerve together with Meckel's ganglion in which the patient was well seven years subsequently, and to the best of my knowledge remains so still. The technique of the osmic acid method is very simple. The nerve, having been exposed at the spot indicated by as small an incision as possible, which in the case of the supra-orbital, infra-orbital, or mental branches need rarely exceed half an inch in length, is hooked up for purposes of fixation. The solution of osmic acid (1·5 per cent.), freshly prepared, is injected by means of a sterilised hypodermic syringe, the needle of which is passed along in the substance of the nerve as far as it can be made to go. The total amount injected should be from five to 10 minims and it should be introduced in two or three separate injections in order that the whole nerve may be as much as possible soaked in the solution. During the injections a pledget of sterilised gauze or wool should be firmly held around the needle at the orifice of the wound in order to prevent the escape of fluid externally. The amount of the solution really taken up in the nerve itself must of course be very small, and the retention in the operation wound of what regurgitates from the nerve probably aids the treatment by its effect upon the nerve-ends exposed on the cut surfaces. The effect of the solution upon the soft tissues is an immediate blackening of them all, the blood which escapes becoming ink-like in colour. No hindrance to primary union follows; in the present series, for instance, primary union occurred in all the cases with one exception (Case 3) in which some dermatitis in a patient prone to general skin disease delayed healing for a few days. In cases like Case 9 more extensive incisions may be necessary, since their extent necessarily depends in some degree upon the depth of the nerve to be exposed. In dealing with the larger nerves, especially in their continuity, several injections should be made side by side at the same level, a strong steel needle or a fine trocar and cannula being used, as the nerve tissues are extremely dense and resistant. As the resistance to the passage of the fluid between the nerve elements is very considerable it is well, also, in such cases to give a final free injection between the nerve and its sheath. If the results of this method of relieving the pain in certain nerve conditions turn out to be so satisfactory, as seems likely from what I have seen of them, there is no reason why its scope should not be considerably extended, more particularly, for example, in the treatment of the definite nerve pains which follow in so many cases of recurrent cancer of the breast and other parts. It is possible, also, that it may be applicable to neuralgia of cerebro-spinal or mixed nerves—e.g., the sciatic—but at present I have no information as to its effect upon the motor elements of mixed nerves. It is probable, however, that paralysis would result, in which case, of course, its use could hardly be justifiable under ordinary circumstances; but this is a point which can easily be cleared up. On the whole, so far as the class of case which I have been considering in this lecture is concerned, I am strongly inclined to the belief that the treatment by injections of osmic acid is the most promising with which I have up to now become acquainted, and it possesses at the least this solid merit, that should recurrence happen the repetition of the injections is such a comparatively simple matter that it may be undertaken without hesitation. In conclusion, I submit that the slight nature of the operative measures which this method involves must commend itself to all, since they render it justifiable in the early and more curable stages of the affection and thus may obviate the loss of time frequently involved in useless medical measures which so often leads to these cases being referred to the surgeon for operation as a forlorn hope only.

[*Note* (*October*, *1899*).—The publication of the foregoing lecture, which is given as originally delivered excepting the omission of some elementary details which would be superfluous, has been deferred in order that an opportunity may be given for further observation of the cases recorded. In Case 2 death occurred in July, 1899, from intracranial sarcoma, no recurrence of the pain cured by the osmic acid injections having happened. Case 4 remained free from pain until July, 1899, when attacks of a similar kind but involving a different area commenced. These attacks, which appeared to be more or less confined to the temporo-malar and auriculo-temporal region, became so

distressing that the injection treatment was used again in August. At present sufficient time has not elapsed to enable me to form a reliable forecast of the ultimate result. In Case 5 a slight recurrent pain was felt in March, 1899, but soon subsided; in July another attack of the same kind occurred but soon passed off. It must be borne in mind that these two cases were on the whole the most advanced and apparently the most hopeless of the series and the important point must be especially noted that the pain in Case 4 was not a true recurrence but a new development affecting a different area. Since the date upon which the lecture was delivered I have operated upon two other cases the progress of which has been precisely the same as those already given, no sign of recurrence of pain having up to now shown itself.]

AN ACUTE EPIDEMIC OF GASTRO-ENTERITIS ATTRIBUTED TO FOOD-POISONING.

BY M. LOUIS HUGHES, L.R.C.P. LOND., M.R.C.S. ENG., D.P.H.
CAPTAIN R.A.M.C., ASSISTANT SANITARY OFFICER, ALDERSHOT;
AND
C. W. R. HEALEY, L.R.C.P. & S. IREL.,
CAPTAIN R.A.M.C., CAMBRIDGE HOSPITAL, ALDERSHOT.

DURING August and September last more than 30 patients, the subjects of acute gastro-enteritis, were admitted to hospital at Aldershot suffering from a combination of jaundice, pyrexia, and other symptoms which were strange to ourselves and to those whom we have had an opportunity of consulting.

In a few cases the onset appeared to be sudden, the men feeling giddy, and in two instances actually losing consciousness. In most instances, however, there was a preliminary stage of malaise, pains in the legs, headache, and thirst, gradually leading up to the more acute symptoms. One man, though "seedy," did not come to hospital for ten days. All suffered during the early stages from pains in their limbs and headache, followed by anorexia, pain in the stomach, nausea, and then vomiting. All were constipated at first, but this gave way (after aperients had been given) to diarrhœa with peculiar loose, slate-coloured stools. These were in some cases mixed with altered blood materials, giving them a terra-cotta colour (changed to black when bismuth was being taken). In two cases malaria occurred. On reaching hospital from six to 30 hours after the onset of the attack the patients were found to be suffering from pyrexia, the temperature ranging from 101° to 104° F. The tongue was furred, with a tendency later to dryness and a brown centre, abundant diaphoresis, great thirst, total anorexia, and pain and tenderness of the abdomen, most marked in the epigastric and hepatic regions, were present. There was nausea, followed by continued vomiting and in two cases by actual hæmatemesis. The urine was scanty, highly coloured, in most cases containing granular casts and traces of albumin, and in some abundant crystalline phosphates. Muscular pains and tenderness (most marked in the calves of the legs) were prominent symptoms. The tendon reflexes were diminished and in many cases they were lost. There was much loss of body weight. In all severe cases gradually increasing general jaundice appeared in from two to five days, increasing up to about the tenth or fourteenth day and then fading very slowly during convalescence. In a few cases this persisted for a month and more. In some instances it merely tinged the conjunctival membrane, in others it became severe and general. It is interesting to note that in the two fatal cases with extensive gastro-duodenal inflammation, jaundice was an early symptom, while in the one in which this inflammatory condition was most marked in the lower portion of the small intestines jaundice did not appear until the fifth day. In all cases it was a very noticeable symptom. Seven suffered from herpes on the lips and face, and four from a general urticaria lasting for two or three days. In severe cases, hypostatic pneumonic congestion was present. Headache was a persistent symptom and was combined with drowsiness and mental confusion, restlessness, and insomnia, especially in the early stages. The temperature was extremely irregular, being high and remittent for from four to seven days and then irregularly intermittent, oscillating near the normal line for some days before convalescence. Two of the patients had mild relapses of gastro-intestinal irritation and pyrexia lasting for three or four days, following the first solid food taken in one case and in the other coming on when the patient left his bed. In several cases vision was temporarily obscured and in those cases epistaxis occurred. The pulse was at first rapid and full but later it became slow, feeble, and even intermittent, the immediate cause of death being heart failure with a subnormal temperature. During convalescence, which usually set in from the seventh to the fourteenth day and was slow and protracted, the appetite became ravenous.

Treatment and dietary were chiefly symptomatic, aiming at the removal of the cause per rectum, mitigating the intestinal symptoms, and keeping up the patient's strength. Bismuth, opium, atropin, digitalis, strychnia, thymol, &c., were tried. The cases were at first attributed to the effects of marching in the sun. No emetics were given.

The post-mortem appearances in the three fatal cases consisted of intense congestion, inflammation, and œdema of the mucous membrane of the stomach and small intestines, varying in degree and locality, but in one case involving the stomach and the whole of the small intestine. Peyer's patches were practically unaffected, but the solitary glands were congested and prominent. There was no ulceration or visible entozoa and the colon was unaffected. In one case the small intestine contained loose terra-cotta coloured fæcal material. The liver, which was enlarged (from 70 to 78 ounces) and bile-stained, showed signs of fatty degeneration. The gall-bladder was full but not markedly distended. The spleen was normal. The kidneys were enlarged and intensely congested; the capsule was non-adherent. In one case the cortex of both kidneys contained small cysts filled with clear fluid. The skin and other tissues were deeply bile-stained. The lungs were congested posteriorly. The thoracic and abdominal lymphatics were not noticeably enlarged. The muscles of the legs, the throat, the diaphragm, and the ileopsoas were free from trichina or other parasites. The following cases are given as illustrations.

CASE 1.—The patient, aged 22 years, whose previous health had been good, complained of headache and pains in the calves on August 27th at Cowshot Camp and was admitted to hospital on the next day with pain in the epigastric region followed by vomiting and jaundice. He became deeply jaundiced on Sept. 1st, on the 2nd severe vomiting set in, and on the 3rd there was hæmatemesis. The jaundice increased, the pulse became feeble and at times intermittent, and diarrhœa set in, with loose stools containing altered blood material. The vomiting was checked by opium, but it returned on the 4th and became very violent, several pints of fluid being ejected, some containing blood. The patient sank rapidly about midday and died from heart failure. The treatment was symptomatic, with opium and later stimulants, digitalis, and strychnia. Post-mortem examination 26 hours after death showed the skin and other tissues much stained with bile. The heart and the left lung were normal, the right lung having a large patch of basal congestion. The liver weighed 78 ounces; it was greasy to the touch and was easily broken down. The gall-bladder was full but not over-distended. The spleen was not enlarged and apparently normal. The kidneys were enlarged and congested. The stomach was in a state of acute inflammatory congestion with œdema of the mucous membrane and signs of recent hæmorrhage. The duodenum and the upper part of the jejunum also were acutely inflamed; the solitary glands were prominent but there was no ulceration. (From notes taken by Lieutenant H. E. Haymes, R.A.M.C.)

CASE 2.—The patient, who was 21 years of age and who had previously had good health, was a teetotaler. He left Aldershot with his brigade on the morning of August 24th for Barrossa Camp. On the 26th he marched to Cowshot Camp, where he first began to feel "seedy" between 11 P.M. and midnight while on outpost duty, with headache and stiffness in the calves of the legs. On the morning of the 27th (Sunday) he felt worse and his nose bled at 11 A.M. He lay down all Sunday, but did not sleep at night on account of headache and pains in the legs. He did not vomit. On the 28th at about 6 A.M. he was seized with vomiting, but he managed to march to Pirbright (one mile) when he fell out. He then marched behind a water-cart to Ash (four miles), where he lay down for a short while and then was sent in an ambulance to hospital. On admission (August 28th) he suffered from persistent thirst, severe pains

in the legs, followed later by epistaxis and frequent vomiting. There were pain and tenderness over the epigastric region and the liver and total anorexia. Jaundice set in on the 29th and increased gradually up to Sept. 3rd, and though fading was still present on the 25th. The patient was at first constipated but this condition was relieved by castor oil. Diarrhœa with loose slate-grey stools followed. A herpetic eruption occurred on the lips on August 28th and epistaxis again on Sept. 4th. The patient began to convalesce about Sept. 6th. A relapse of gastro-intestinal irritation and pyrexia occurred on the 14th, following the eating of solid food. Convalescence was very protracted. Jaundice was still visible in the conjunctivæ on Oct. 10th, and though the patient was up and about he was still debilitated.

Cultivations were made in broth, nutrient gelatin, and agar-agar from the spleens of all three fatal cases in from three to five hours after death, twice directly, and in one case through a subcutaneous puncture the position of which was subsequently verified. All three proved sterile, but from the liver and kidney of one of the former cases the bacillus coli was obtained and was kindly verified for us by Dr. Klein, Professor Wright, and Dr. Durham, and gave no reaction with blood serum from other cases. Sections of the kidney showed inflammatory changes in the tubes but no Gram-staining organisms. Blood serum from several cases, kindly tested for us by Mr. Foulerton, gave no reaction with Gärtner's bacillus. The internal organs and part of the contents of the stomach and intestines of one case were forwarded to Dr. Luff at St. Mary's Hospital for analysis, who reported: "Quite free from all metallic and vegetable poisons, including phosphorus. The stomach, duodenum, and liver are also free from ptomaines, but in the contents of the stomach I found a small quantity of toxic ptomaine which was present in too small quantity to identify."

The cases were attributed by some to the effects of marching in the sun, by others to influenza, to mild yellow fever (with which no connexion could be established), to Weil's disease (of which little is known), and to food-poisoning. The water-supply and barracks were excellent and above suspicion. The cases, even when the majority were confined to one regiment, were scattered throughout different companies and barrack rooms, so that no direct infection appeared to be present. Everything seemed to point to the cause having been from something swallowed, and the prolonged pyrexia, variable incubation period, and gradually increasing severity pointed to the action of some toxin-producing micro-organism alive in the alimentary canal and probably not invading the tissues.

With three exceptions the cases all occurred in one brigade (especially in one regiment) of 3474 soldiers out of a large garrison of 550 officers, 17,000 soldiers, and 3000 women and children. The officers and the women and children seem to have escaped entirely. The cases were admitted in four batches as follows:—

Batch.	Approximate date of onset of attack.	Brigade.	Regiments.	Admissions.	Deaths.	Source of grocery ration.	Remarks.
1	August 9th to 10th.	1st	Royal Sussex Regiment.	?	—	C	Mild cases which but for subsequent ones would have escaped notice.
		,,	Somerset Light Infantry.	6 or 8	—	A	
2	August 26th to 28th.	,,	Somerset Light Infantry.	9	1	A	Very severe cases.
		,,	Royal Sussex Regiment.	1	1	C*	
3	Sept. 4th to 6th.	,,	Somerset Light Infantry.	1	—	A	*From August 24th to 31st had same supply from A as Batch 2 and some appear to have commenced earlier but did not feel ill enough to complain.
		,,	Royal Sussex Regiment.	2	—	C*	
		,,	Black Watch.	2	1	C	
		,,	Welsh Regiment.	1	—	C*	
		,,	Northampton Regiment.	2	—	A	
		,,	Royal Engineers.	2	—	B*	
		2nd	Scottish Rifles.	1	—	C	
		,,	Durham Light Infantry.	1	—	A	
		,,	Royal Fusiliers.	1	—	A	
4	Sept. 16th to 17th.	1st	Northampton Regiment.	2	—	A	No more cases up to Oct. 10th.

A large number of articles of tinned and of ordinary food supplies, articles of food and drink supplied by hawkers, mushrooms, &c., were considered with decidedly negative results, the principal ones common to affected regiments, but not common to the garrison at large, being those supplied by the grocery contractors. The great number of cases occurred while the 1st Brigade were out in camp at Cowshot during field training. On August 24th the whole of the 1st Brigade marched out after a bread-and-butter breakfast to Barrossa Camp, the regiment most affected having, unlike the others, cheese supplied by A in their haversacks, which they ate for lunch. In camp all had fresh meat, vegetables, butter, bread, and two ounces of a different cheese, supplied by A, and some German sausage. Next day they had similar supplies, except that preserved beef of a well-known brand replaced the sausage. On the evening of the 25th they marched to Cowshot and remained there until the morning of the 28th. On these days similar supplies were issued, only that bacon and brawn replaced the sausage. All these supplies were eaten by the 3rd Brigade (in which no cases occurred) in camp on the same dates elsewhere, and similar cheeses were eaten by certain civilians without any cases arising. The cheese was issued to be carried in the haversack on the march, but the 27th being a Sunday there was no march and much of it not being eaten was thrown away with the refuse. At 7 P.M. on the 28th (after the troops had left the Cowshot Camp) a flock of about 20 sheep was driven into the field. At 7 A.M. next morning the farmer was called to see them. He found them on and about a large heap of kitchen refuse (cooked meat, potatoes, green peas, uncooked potato peelings, bread, cheese, paper, &c.) left uncovered by the troops. One of the older ewes, lying near the refuse heap, was very ill and died a few minutes afterwards. Seven others of the older ewes were ill and five of them died before evening; two took three days to recover. The farmer describes them as "bellies much distended, in great pain, back hunched up, loss of power in hind limbs, no diarrhœa, vomiting, or nasal discharge." These sheep (two-year-olds) had been born and bred on the farm and in these fields. The pasturage was clean and sound and devoid of poisonous plants, &c., while no similar cases had been known on this or on neighbouring farms. No sheep were affected after the rubbish had been covered. One of us accompanied Veterinary Major Moore (Professor in the Army Veterinary School) some ten days later to the farm. We were shown the stomach of the first sheep which had died and we exhumed and examined two other sheep. The two latter had been fat and well nourished. Their stomachs showed signs of extremely acute congestion (and inflammation?) and this was also present in the upper portions of the small intestines; they had evidently been much distended during life. The livers were bile-stained and were stated by Professor Moore to be enlarged. The kidneys were congested, inflamed, and disorganised. The other organs were normal. All three stomachs contained a large feed of young and old grass with a few bits of lemon, green-peas, onions and potato peelings, and a quantity of cheese (probably one and a half ounces in each). Specimens of this cheese were forwarded to Dr. Luff who reports: "I found tyrotoxicon present in fairly large quantity. One milligramme of this tyrotoxicon injected into a rat killed it in three hours. The symptoms from which the soldiers suffered are quite compatible with these cases being due to tyrotoxicon poisoning."

Though tyrotoxicon is a fairly definite product the micro-organism or group of micro-organisms which produce it are still an indefinite quantity, nor were we able in the limited time at our disposal to cultivate any organism of an unusual or pathogenic character. The clinical symptoms described by Professor Victor Vaughan and others[1] have much in common with those we have described. Were the cases confined to those persons who ate the particular cheese issued between August 24th and 31st there would be very strong presumptive evidence in favour of tyrotoxicon poison, but a certain few cases need to be connected with the common cause, which so far we have been unable to do. Each cheese weighed about 40 pounds and would supply about half a regiment. We are informed that they were cut up by the regiments with their own knives and no connexion

[1] Seventh International Congress of Hygiene and Demography, 1891; Twentieth Century Practice, vol. xiii.; Transactions of the Association of American Physiologists, Philadelphia, 1896, vol. xi.; Anderson in the Inter-Colonial Medical Journal, Melbourne, 1898, vol. iii., p. 557; Wesener and Rossman in the Philadelphia Medical Journal, 1898, vol. i., p. 1119; and several German papers.

of knife, wrapper, butter, or milk could be made with other regiments. The regiments of the 1st Brigade were all close to one another in camp when most of the cases occurred and from August 24th only some four or five had not been present in that camp. Though the cheese doubtless killed the sheep, more evidence is required to definitely settle the cause of the disease amongst the men. Having dealt with all other articles of food about which we could obtain information and as we are both under orders to proceed shortly on active service to South Africa, we publish these particulars with a hope that some of the readers of THE LANCET may be able to throw further light on the subject.

Aldershot.

A CASE OF INFECTIVE ENDOCARDITIS TREATED BY ANTI-STREPTOCOCCIC SERUM, NUCLEIN, &c.; DEATH.

BY R. HINGSTON FOX, M.D. BRUX., M.R.C.P. LOND.,

AND

E. AUGUSTUS LERMITTE, M.B., B.S. DURH., L.R.C.P. LOND., M.R.C.S. ENG.

A MAN, aged 39 years, consulted Dr. Hingston Fox on Jan. 4th, 1899, for pain in the lumbar spine, with tingling in the legs and feet after exertion. The patient was a delicate-looking man, of anxious temperament, and had suffered from influenza with rheumatic symptoms a year previously. No history of exposure to sewer gas or other septic conditions could be made out. His father died at 51 years of age from carbuncle and his mother died at the age of 76 years, but she had had delicate lungs in early life. There was much tenderness over the whole lumbar spine, the knee-jerks were active, and there was some ankle clonus on the left side. The pain was lessened by rest, but it did not pass away, and as the tenderness on pressure continued and there was a slight deviation of the lower part of the lumbar spine to the left, it was thought on Feb. 9th that caries of the spine was impending. The urine contained albumin, at first a trace only, but increasing week by week, with excess of acidity, much deposit of urates, many squamous, mucous, and renal cells, and a few small casts. On one occasion a good many tufts of blood-vessels were found in the urinary sediment, with capsules apparently containing cells. A small rough systolic bruit was heard over the aortic orifice on Feb. 9th. The patient was confined to his bed and couch from about Feb. 10th and the actual cautery was applied near the spine on four occasions with the result that the spinal pain entirely subsided. Remittent pyrexia (from about 99° F. to 101° or 102°) was observed from his first confinement to bed and continued thenceforth. The urine continued to be albuminous and loaded with urates and uric acid, the latter sometimes in a copious sediment. Pain and swelling, apparently brief inflammatory embolisms only lasting a few hours or a day or two, appeared during the latter half of March in various locations—the right wrist, the left cheek, and the left testicle. The temperature rose higher in the last week of March and from that time pursued an irregular, fluctuating course, seldom falling below 100° in the morning and generally reaching 102° or 103° in the evening. There were frequent sweats but no rigors. Meanwhile the heart became gradually dilated and double aortic and systolic mitral bruits developed. Staphylococci, probably pyogenes albus, were found in the blood on April 5th, but no streptococci. The staphylococcus pyogenes aureus was obtained from pustules on the 25th. Dr. Lermitte took charge of the case on April 6th, Dr. Fox continuing to see the patient in consultation at intervals. Signs appeared of much effusion into the peritoneal and pericardial cavities and some into the pleural cavities. There were varying evidences of pneumonia and pleurisy at the bases of the lungs and during the last month of life of hypostatic congestion, also some aphthous stomatitis. The liver and spleen were enlarged and there were pains in the jaws, shoulders, and other joints. The patient died on May 10th from slow heart failure with attacks, shortly before the end, of pain in the heart region and in the back of the thorax. The morning fall of temperature extended much below normal in the latter five days of life. The patient took food well throughout, but became wasted and anæmic.

At the necropsy the heart was found to be much enlarged and the left ventricle was distended and filled with firm dark clot. The aortic valves were distorted and covered at their edges and bases by abundant granulations and there were some granulations also on the auricular surfaces of the mitral valves. The pericardium contained about four ounces of turbid bloody fluid containing flakes. The right pleura was more or less adherent throughout, especially to the diaphragm, and the left pleural cavity contained some fluid. Both lungs were gorged with blood, with signs of recent pneumonia at the bases. There was some cicatrisation at both apices, including at the right apex calcareous deposit. The peritoneal cavity contained fluid. The liver and spleen were enlarged. The kidneys were also large, the capsule splitting into two layers, of which the inner was adherent; the cortex was pale and cloudy, the pyramids were dark, and many little red crystals of uric acid lay in the calices. There were no cysts or hæmorrhages. The lumbar inter-vertebral discs appeared to be healthy. No sign of suppuration was found anywhere in the body.

The treatment pursued was in part general and symptomatic, but the following points are of interest. It was strongly suspected that a suppurative lesion was present, and on April 9th the patient was thoroughly examined under an anæsthetic and the needle was inserted in several parts of the loins and back, but no pus was found. Quinine was given for about two weeks in three-grain or four-grain doses, or two grains three times a day, but it was wholly without effect on the temperature. Sodium salicylate and alkalies seemed to reduce it sometimes. Arsenic was also used for some weeks. Anti-streptococcic serum from the Jenner Institute was obtained through Messrs. Allen and Hanburys and used assiduously from April 4th to 11th. Fifteen doses in all were injected beneath the skin of the abdomen or arm, generally of 10 cubic centimetres each, and amounting to a total of 149 cubic centimetres. The local irritation was considerable and the patient disliked the injections; eventually copious erythematous lichen developed over much of the abdomen and the arm, as well as bosses of erythema at the site of the injections. The temperature, at that time ranging between 100° and 103°, was in no way lowered, perhaps it was a little raised, under their use, and he was unusually drowsy. There was no remission of any symptom. Nuclein was then tried from the 12th to the 16th, 11 hypodermic injections being used, at first of from 20 minims to 30 minims of an old 1 per cent. solution made by Messrs. Burroughs and Wellcome and later 16 minims of a new solution of the same strength prepared on purpose for this case by the same firm. The injections caused pain for a minute or two, the liquid evidently irritating the tissues, and a very itchy rash came out over the abdomen and the back. The temperature remained high and no good effect whatever could be observed. The inhalation of oxygen was used during the latter weeks from time to time and the pulse-rate was quieted for awhile thereby—e.g., from 130 to 112. Small doses of antifebrin were also given during two days. On April 19th and 29th Dr. Lermitte applied an eclectic German oil, apparently containing croton oil or some similar drug. The chest and abdomen were first covered with rows of fine multiple punctures by a scarificator and the oil was painted over them, a thick wool wrapping being immediately applied and kept closely in apposition. In the course of two or three days a crop of innumerable small pustules had developed, and these in another day or two dried up and the scabs could be brushed away. In the meantime the patient was very thoroughly fed. The treatment was borne better than might be supposed and gave very little trouble. Under the first application the temperature steadily declined for four days, the minima and maxima being as follows: April 19th, 100·4°, 103°; 20th, 99·8°, 101·8°; 21st, 99°, 101°; 22nd, 99°, 100·4°; and 23rd, 97·2°, 100°. The pulse dropped from 120 to about 90, the tongue cleaned, the urine increased in quantity, and the general condition of the patient was easier. After the fifth day the conditions all relapsed, the temperature reaching 103·6° on the 25th and the pulse being 120, and no further good effect could be traced. The second application was made at a late period when the heart was obviously failing and no distinct benefit was observed to follow it.

Remarks by Dr. HINGSTON FOX.—The origin of the specific infection in this case—one of infective endocarditis of the

malarial or cardiac form—was not clearly shown; but the influence of a previously damaged aortic valve in the production of the disease was manifest, a fact to be remembered in life assurance examinations. The case unhappily progressed from the first to its fatal end little influenced by the treatment used. The record as to the efficacy of anti-streptococcic serum and nuclein is therefore a negative one, but inasmuch as these remedies received a thorough trial the facts are now published. So far as the experience of a single case goes it points to the uselessness of the serum when no streptococci, but only staphylococci, are found in the blood. In connexion with this it may be noted that a Russian physician has reported a case of malignant endocarditis treated successfully with anti-staphylococcic serum.[1] The marked, although temporary, benefit derived from free minute pustulation is noteworthy and brings to mind the "counter-stimulant" use of tartar emetic which was introduced by Dr. Edward Jenner and so extensively practised for all inflammatory diseases during the earlier half of this century. In the present case there were micrococci, toxins, and much hot inflammatory material circulating in the blood, and those who watched the patient during the pustulation and noted his declining pyrexia and general increased comfort for the time being, could not resist the inference that the pustules actually withdrew some of the noxious matter from the circulation. The patient had also the advantage of the advice of Sir William Gowers, of Dr. Arthur Davies, and of Mr. A. H. Tubby, who saw him at various stages of his illness. The bacteriological examinations were made by the Jenner Institute of Preventive Medicine and the Clinical Research Association, whose reports agreed very closely.

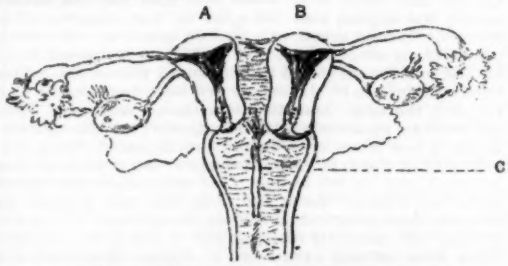
A CASE OF PREGNANCY OCCURRING IN A PATIENT WITH A DOUBLE UTERUS AND A DOUBLE VAGINA.

BY C. J. GLASSON, M.D. BRUX, L.R.C.P. LOND., M.R.C.S. ENG.

IN reporting this case I have done so that it may add to the few cases which are on record.

On the evening of Sept. 3rd, 1899, I was called to attend a primipara, aged 21 years, in her confinement. On my arrival at the house I found that she had been in labour for some hours and that the pains were getting very strong, but that the child did not seem to get any lower. The liquor amnii had burst some time before during one of the pains. The woman was walking about when I got to the house. I placed her on the bed and proceeded to examine her in order to find out the presentation, but to my surprise I could not feel the child's head exc. pting through a thick membrane. At first I thought that I must have made a mistake and inserted my finger in the rectum, but I could feel the anus distinctly with my left index finger. I got my finger as high as I could possibly get it, but could not feel the os or the uterus. I withdrew my finger and re-inserted it; this time there was no mistake, for I could feel the child's head distinctly in the first position. The head had come through the os and was pressing down hard upon a thick band. There was no deformity of the pelvis either at the inlet or the outlet; in fact, there was plenty of room. I proceeded to examine her more carefully by the aid of a good lamp and upon separating the folds of the vulva I could distinctly feel and "see" a thick septum extending anteriorly and posteriorly across the vagina. I easily passed my index finger into the right side but felt no os, and again into the left vagina and felt the child's head. I passed my finger up along the whole of the septum until I came to its junction with the uterus. All the parts were, of course, congested and swollen as is usual at labour. While I was examining her during one of the pains, which were now becoming exceedingly powerful, I could feel the child's head pressing upon and throwing the septum into a fold which by stretching across the head prevented its coming down any further. Just before this pain finished the patient complained that something had given way inside her and the pain suddenly ceased. I found, upon examination, that the upper portion of the septum had given way and that there was now a foramen through which I could pass my finger into the right vagina. When the next pain came on I had been holding the septum to the right side of the vagina, so that, if possible, the child's head might slip through. This I was enabled to manage after a good deal of manipulation and had the satisfaction of getting the head safely past the obstruction. Soon the child's head was well down on the perineum and while a stronger pain than usual was on the patient felt something more give way. This was the septum at its lower attachments. After that I had no further trouble. The head was born, then the shoulders and the rest of the body. The child was a big male child and weighed, I should judge, between seven and eight pounds. There was a distinct mark across the head where the fold of the septum had pressed. I expressed the placenta and there was very little hæmorrhage. I examined the patient carefully after the placenta had come away and I could feel and see where the septum had been torn away and could feel the septum still whole up to the uterus except where the hole had been torn through close to the os. I could also feel high up on the right side a mass but could not make out definitely what it was. The perineum itself was intact. The patient made a splendid recovery and got up on the twelfth day.

I questioned the patient's mother concerning her, but she said that she had never noticed anything wrong. I asked the patient about her menses; these, she said, had been irregular, they had occurred once in five or six weeks, and then they had been very scanty and had lasted about two days. She never menstruated after marriage and the baby was born 10 months after that event. I asked if her husband had had any difficulty during intercourse. She replied in the negative, but that sometimes there had been some apparent obstruction, but of this she had taken no notice. Four weeks after labour I made a thorough examination. Externally the vulva and labia were normal. The urethra, the anus, and the rectum were normal, but I could easily see by separating the labia where the septum had been attached in front along the median line at the base of the bladder and behind to the median line in front of the rectum, and on tracing the remains up I could feel where it became continuous with the part of the septum that was still whole. On passing the finger up into the left vagina I could feel the uterus which had regained its normal size, and bimanually I could feel the fundus which was pointing to the left side. I then passed my finger into the right vagina and there I found another uterus of about the size of the first one with its fundus pointing to the right side and between the two I could pass my finger up and touch my fingers placed externally. I could only feel one ovary on each side and none between. I did not examine her per rectum. The following diagram will explain the conditions found. I should add that the vaginal septum passed upward and was continuous with the septum between the two uteri.



A, right uterus; B, left uterus, in which pregnancy occurred.
C, Foramen at upper part of septum.

This is a rare case of abnormal development and one in which very serious trouble might have arisen in the course of labour. Had there not been plenty of room to manipulate the band formed by the septum it would have had to be divided. I was exceedingly glad that I had to do no such thing, partly on account of the hæmorrhage that might have followed and partly on account of the smallness of the space to work in and the damage which might have been done by the knife when the pains were so frequent and of such a strong character. I have been trying to persuade the patient to undergo an operation for the removal of the septum, but neither she nor her husband will consent to anything being done, so for the present the conditions must remain *in statu quo*.

Chadwell Heath, Essex.

[1] Brit. Med. Jour. Epitome, July 2nd, 1898, art. 12.

IDIOPATHIC PERFORATION OF THE BONES OF THE NASAL SEPTUM.

BY W. J. C. MERRY, M.A., M.D., B.CH. OXON.

IDIOPATHIC perforation of the cartilaginous portion of the nasal septum is not uncommon; it is, however, but rarely allowed that ulcerative perforation through the vomer or perpendicular ethmoidal plate can have other than a specific cause. That superficial necrosis of the nasal bones may follow on prolonged local inflammation of a simple nature is well known, and often exemplified in the course of the formation of a mucous polypus, but I am unable to find a record of a case of this kind resulting in the extensive perforation which I have endeavoured to describe below. The possibility of syphilitic infection in this case was most carefully gone into, but there were absolutely no evidences of either previous or present specific lesions in either husband, wife, or children. The following is a brief account of the history of the case.

A lady of good family, aged 40 years, consulted a leading specialist in the summer of 1898 about the difficulty she had in nasal respiration, and I am indebted to him for the following short account of the condition of the nares at that time. The septum was then much deflected towards the left and in contact with the inferior turbinate bone on that side, the mucous membrane covering which was hypertrophied. The right nostril was apparently normal. Removal of a portion of the septum was strongly advised, but this the patient refused to have done. The hypertrophied mucous membrane was then treated with the galvanic cautery and a narrow space was obtained in this way between the septum and the outer wall. At the end of this treatment nasal respiration was unobstructed, which relief persisted for four or five months. After a severe coryza in December, however, the obstruction returned and remained. During the first half of 1899 the patient suffered frequently from coryza, but it was not until May that any fœtor was noticed. At this time, also, a creamy purulent discharge commenced, which formed troublesome crusts in the nostril. For the alleviation of this the patient used, by advice, antiseptic nasal sprays and iodide of potassium internally, but without benefit. In July she consulted me and on examination the left nostril was seen to be plugged with a mass of pale, soft granulation tissue, which bled readily on being touched and was very friable and insensitive. The whole nostril, so far as could be seen, was bathed in a purulent exudation, but there was at this time but little fœtor, though the patient herself complained of a bad smell in the nose. In the right nostril there was a small amount of purulent discharge and the mucous membrane covering the inferior turbinate bone was hypertrophied. The mucous membrane of the septum was normal save for a small mass of granulation tissue which was afterwards found to correspond with the perforation in its wall. Anterior rhinoscopy was at that time of little further use, but a probe detected a spot of bare bone on the edge of the inferior turbinate bone on the left.

After rendering the nostrils as antiseptic as the conditions allowed, the mass of granulation tissue in the left nostril was removed with a sharp spoon under cocaine anæsthesia. Hæmorrhage, which was sharp at first, ceased as the nostril became clear. In the course of the operation it was noticed that the septum was perforated. The removed tissue revealed nothing on examination further than ordinary granulation tissue and contained no fragments of bone. No sequestrum had been noticed at any time during the progress of the disease, which had been entirely painless throughout. A good view could now be obtained and it was seen that the perforation included portions of the vomer and perpendicular plate of the ethmoid. The edges of the perforation were soft carious bone embedded in inflamed mucous membrane. In the further progress of the case, details of which are here unnecessary, these edges became gradually covered as the mucosa became healthy, there being but little further loss of bone. At the end of six weeks the lining membrane had regained a normal healthy aspect and the margins of the perforation, which was of the size of a shilling, had become entirely covered, with the exception of one small spot in the upper segment.

The only treatment adopted after the operation was local and consisted of sprays of menthol in liquid vaseline and an antiseptic nasal douche. A 1 in 20 solution of phenol was also applied twice a week on some cotton-wool on the end of a probe. The perforation causes the patient no inconvenience, the nasal respiration is unimpeded, and there is no external deformity.

The explanation of the case seems to be as follows. Consequent on the repeated coryza the nasal mucosa became swollen and hyperæmic and contact between the two sides of the left nostril became again established, as was the case before the original cauterisation. The continued pressure thus exercised between the surfaces of this swollen and chronically inflamed mucous membrane, with its resistance thereby lowered, gave rise in due course to superficial molecular necrosis of the mucosa. This ulcerative process, once started, in tissue of low vitality and with the exudation unable to drain away freely, might readily extend and, by destroying the muco-periosteum, give rise to caries of the subjacent bone. The blame cannot be ascribed to the operation of cauterisation, the immediate effects of which were admitted as beneficial by the patient and only annulled by the chronic catarrh which commenced some four months after. A factor which can but have aided the process was the employment by the patient of a hairpin wrapped in cotton-wool to remove the crusts which were formed in the nostril by the dried exudation. That the perforation may have been caused by osteoclasts is another possible, though less likely, explanation, but one which I am not in this case in a position to prove or disprove.

Eastbourne.

TWO CASES OF DEATH UNDER CHLOROFORM.

BY J. M. ATKINSON, M.B. LOND.,
PRINCIPAL CIVIL MEDICAL OFFICER, HONG-KONG;
AND
J. BELL, M.R.C.S. ENG., L.R.C.P. LOND.,
ASSISTANT SUPERINTENDENT, GOVERNMENT CIVIL HOSPITAL, HONG-KONG.

CASE 1.—The patient, a woman, aged 25 years, a European, was sent to the Government Civil Hospital, Hong-Kong, by Dr. Jordan in order to be examined under chloroform as she was suffering from some uterine trouble complicated with an abdominal tumour. She was admitted at 4 P.M. on August 9th last and on that evening she was given an aperient followed by an enema on the morning of the 10th. She had a cup of tea for breakfast on that day and a glass of milk at 11 A.M. The patient had had four children. In May last there was an attack of hæmorrhage from the uterus which under treatment ceased in a few days. Since then her menses had ceased and latterly her abdomen had been increasing in size. On superficial examination there was seen to be a swelling in the right lumbar region continuous with the liver dulness. Dr. Jordan had examined her heart and had found it to be normal. The patient told Dr. Atkinson that she had taken chloroform before some two years ago for, Dr. Atkinson believes, extraction of some teeth. At 1.7 P.M. on the 10th Dr. Atkinson commenced to give chloroform with Krohne and Sesemann's regulating inhaler which had been in use at this hospital since October last, Dr. Jordan taking the patient's pulse. As she struggled slightly the mask was removed from her face for a few seconds and then replaced, the bellows being only slightly compressed. In a few minutes the conjunctivæ were insensitive and Dr. Atkinson said that she could be examined. On looking at the watch it was 1.10½ P.M. Dr. Jordan commenced to manipulate the tumour when he remarked to Dr. Atkinson that the muscles were not fully relaxed. The administration of chloroform was being continued when in a few seconds the patient suddenly gasped; the mask was removed at once when she was seen to be cyanosed and her pulse could not be felt. Artificial respiration was at once commenced, the patient's tongue being pulled forward, and kept up until 1.40 P.M. Strychnine was injected, sponges dipped in hot water were applied to the præcordium, nitrite of amyl was

inhaled, brandy was injected and the battery was applied, but all without avail.

A post-mortem examination was held that afternoon and the liver was found to be very much enlarged, the tumour being caused by a downward tongue-like prolongation of the right lobe. It weighed six and a half pounds. The spleen was slightly enlarged, weighing ten ounces. The lungs were normal; there was some fatty infiltration about the heart. There was nothing else abnormal excepting a cyst in the left ovary; the uterus was not impregnated.

Remarks by Dr. ATKINSON.—I regret to have to record the above death at this hospital from chloroform, the first, I believe, which has occurred; at any rate, it is the first since I took over the charge in 1887. In all not quite a drachm of chloroform was used and it was Duncan and Flockhart's, which we always use for anæsthetic purposes. The temperature of the ward was 88° F. The cause of death thus early in the course of administration appears to have been due to the action of the chloroform on the cardiac ganglia paralysing them, they being in an abnormal state of susceptibility from some undefined cause.

CASE 2.—The patient was a man, aged 35 years, a European, suffering from necrosis of the thumb. He had been in hospital in January suffering from alcoholism, and in March with delirium tremens. He had been in hospital ten days with a wound of the thumb, from the bite of a crab, leading to bare bone, and he was also suffering from syphilitic psoriasis of both feet. He had had a purge on the previous night and an enema in the morning, and had had no solid food for 19 hours. He had had chicken broth for supper on the previous evening and some milk on the morning of the operation. His heart was examined and was found to be normal. The chloroform was given on a Skinner's inhaler. He took the anæsthetic fairly well and there was very little struggling, though he was inclined to be cyanosed from the beginning. In four and a half minutes with the use of four drachms of chloroform conjunctival reflex was abolished and the operation was begun. The cyanosis increased at this stage and the inhaler was removed. The patient continued breathing for a second or two when suddenly the pulse failed entirely. The usual remedies were applied, but with no result. He had had chloroform some time previously for radical cure of hernia in this hospital.

A post-mortem examination was made three hours after death. All the internal organs were healthy save the heart and aorta. The right auricle was empty and the blood was fluid. There was a slight fatty deposit on the heart and calcareous plates on the aorta at the commencement. Microscopical sections of the heart made by Surgeon E. Sutton, R.N., H.M.S. *Bonaventure*, showed that in both cases there was fatty infiltration, which was especially marked in the case of the woman. Her father had died from phthisis brought on to a great extent by alcoholism and her mother was addicted to drink. Neither of the two patients showed any fatty degeneration. Dr. Atkinson thought that the heart of the man did so, but on staining with osmic acid it was found that the fat was only infiltrated.

Remarks by Mr. BELL.—This is the second death in this hospital from the administration of chloroform since 1887 and the first which I have had since beginning medical practice in 1884. I have for the last 12 months used Krohne's modification of Junker's inhaler exclusively and was out of practice with this old method. This may or may not have had something to do with the unfortunate result.

Hong-Kong.

A SANATORIUM OVERLOOKING THE DEE.—An estate has been purchased in Cheshire, overlooking the upper waters of the Dee, by the combined three Poor-law unions of Liverpool, upon which to erect a sanatorium for the treatment of phthisical patients under their care, which will be under the management of a joint committee. Accommodation will be provided for about 200 patients.

LODGING-HOUSES IN CAMBERWELL.—The Camberwell Vestry has just declined to act on the recommendation of the Sanitary Committee to register certain houses let in lodgings. Exception was successfully taken to the committee's proposal as being of an inquisitive nature and likely to be troublesome to the vestry, but the hypothesis should hardly have influenced the vestry's decision, as often personal parochial interests conflict with proposed sanitary work which, if carried out, would effect more healthful local conditions.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF REMOVAL OF THE OVARIES.

BY PERCY G. LODGE, L.M.S.S.A. LOND., L.A.H. DUB.

A WOMAN, aged 27 years, came under my care in March, 1897. Her only confinement, which had occurred eight years previously, had been a difficult one, the cervix and perineum being lacerated severely. The child died from convulsions at the age of nine months. On July 28th, 1896, I had successfully performed an operation for restoration of the perineum. The present illness dated from the confinement. There was at irregular intervals much discharge of a muco-purulent and hæmorrhagic character. Pain was felt in the iliac regions, in the body, the legs, and the back. In the posterior and right lateral fornix could be felt a tender and firm circumscribed swelling which was diagnosed as a prolapsed ovary. The specific gravity of the urine was 1020, it was acid with no albumin or sugar. There were no other signs of importance. The patient saw Dr. Braithwaite of Leeds in March or April, 1897, when he recommended operation – viz., removal of a prolapsed ovary or ovaries. In July, 1897, she consulted Dr. Lee Wells of Leeds who recommended the same course. Early in February, 1898, I informed the patient that I would undertake, in conjunction with Dr. Wells, the duties of the operation, participating in it if she would have it done in a nursing home, and to this she consented.

On Feb. 23rd, 1898, the patient having been placed under ether, an incision three inches in length was made and continued through the abdominal wall layer by layer. A few vessels were caught up and tied until the peritoneum was reached. This was carefully opened and divided on a director. The retractors were placed in position and two fingers were introduced within the abdominal cavity. The right ovary, which was first reached, presented only slight adhesions. It was drawn into the wound without much difficulty or hæmorrhage. Its pedicle was transfixed and the silk twist was carried around so as to include both the tube and the broad ligament in the usual manner. The ovary and tube were separated by short snips with blunt-pointed scissors, and after careful search for bleeding points and inspection of the stump it was returned. The left ovary was more firmly bound down and more deeply placed; it was, however, easily treated in a similar way. Not much mopping out was needed, the armed sponge-holders giving very little indication of any soiling of the intestinal walls with blood. The peritoneum was closed with catgut sutures. The remaining parietal layers were united with silkworm-gut sutures—four deep and three superficial. Carbolic gauze and wool dressings were applied under a many-tailed bandage. It was because the tubes showed inflammatory thickening that the ligatures were applied so near to the fundus. The patient was then replaced comfortably in bed. The progress of the case was all that could be desired. The sutures were removed on the 27th, healing was obtained by first intention, and in three months the patient was up and moving about her own house, wearing a body belt of the usual elastic type. Dr. Wells tells me that the removed tubes and ovaries were lost at the laboratory at Leeds during alterations, so no slides are possible, but the ovaries showed only fibro-cystic changes.

The patient has since stated that she feels in every way better than formerly. She has lost all her pains and she is very grateful for what has been done to give her relief. Her weight has increased from seven and a half stones to nine stones and her appetite and general health have correspondingly improved. A very curious feature in the case is that she has a tendency to psoriasis. If the vaginal douches are discontinued for any length of time the psoriasis breaks out all over the body and it is only controlled by the continued use of arsenical preparations.

Bradford.

A CASE OF BLACKWATER FEVER IN WHICH THE QUARTAN MALARIAL PARASITE WAS FOUND.

BY FREDERICK SMITH, L.R.C.P. & S. IREL., D.P.H. DURH., CAPTAIN, R.A.M.C.

THIS case is published with the idea that anything which throws a little light on the problem as to whether or not blackwater fever is a distinct disease or mere malaria is worth noting. Tertian and æstivo-autumnal parasites have already been reported as occurring in cases of blackwater fever.

The patient in this case had been 10 months in the colony and had never had fever. He had taken a prophylactic (10 grains of quinine) every other day. On the evening of the third day of fever hæmoglobinuria was noted. On the next morning at 11.30 the blood was examined for the first time and a parasite was found which corresponded to the quartan intra-corpuscular pigmented amœba. The parasites were few in number and at 5.30 P.M. on the same day there were none at all. The patient had been put on increased quinine and arsenic from the moment the hæmoglobinuria was observed.

I do not wish it to be understood that I consider this case a proof that blackwater fever is malarial. In a very malarious country most diseases are complicated with malaria, and for that matter severe injuries, such as gunshot wounds, commonly determine an attack of fever in those who have already contracted the disease. A progressive rise of temperature by about two degrees per diem to a maximum of from 104° to 105° F. on the third or fourth day, the appearance on that day of intense jaundice and of opaque (blackwater) urine loaded with albumin, this hæmoglobinuria being the signal for a fall of temperature to normal in the course of two or three days, by which time the patient is convalescent though terribly weak and the urine is natural or nearly so, are clinical features suggestive rather of a specific disease.

Sierra Leone.

AN UNUSUAL INJURY TO THE WRIST.

BY A. J. RODOCANACHI, M.D. LOND., F.R.C.S. ENG., HOUSE SURGEON TO THE DISTRICT INFIRMARY, ASHTON-UNDER-LYNE.

ON Oct. 8th, 1899, a cyclist who had just fallen from his machine presented himself with the following condition of his right forearm and wrist. The radius and ulna were fractured about their middle. The head of the ulna projected prominently under the skin on the dorsal aspect and its carpal surface could be felt; the styloid process could not be felt. The carpus on the ulnar side projected as a prominence in the palm. On the radial side the relations of the carpus and radius were normal. The diagnosis made was that the styloid process with the triangular fibro-cartilage and carpus had been dislocated forwards consequent on a fracture at the root of the styloid process, whereas the ligaments on the radial side had held. The deformity could not be readily reduced and the patient declined chloroform, preferring to return to his home, which was at some distance.

Ashton-under-Lyne.

CARDIFF SEAMEN'S HOSPITAL.—At the meeting of the committee of the Cardiff Seamen's Hospital Fund held on Oct. 16th the Mayor stated that at present about £3900 were required for the erection of the new building and that every effort should be made to raise that sum by the end of the year.

VACCINATION LITERATURE.—At the meeting of the Long Ashton (Somerset) Board of Guardians held on Oct. 24th the chairman (Mr. F. Weatherly, M.R.C.S. Eng.) stated that he had received from the Local Government Inspector of Vaccination a letter enclosing a pamphlet with reference to vaccination. This pamphlet gave statistics and otherwise advocated vaccination and the inspector suggested that the guardians might secure some copies for circulation in the district. The chairman proposed a resolution to this effect, when five members voted for and five against the motion, and Mr. Weatherly gave his casting vote in favour.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

NORTH-WEST LONDON HOSPITAL.

A CASE OF EMPHYSEMATOUS GANGRENE.

(Under the care of Mr. J. JACKSON CLARKE.)

THE rapid spread of emphysematous gangrene is very striking and is the chief cause of the unfavourable results which in most cases follow amputation for this disease, for unless the limb is removed early the œdema will have extended so far that the incisions have to pass through affected tissues, though even under such circumstances occasional recoveries have been recorded. It would have been of interest to have had an account of the bacterium present in this case; usually it is the bacillus œdematis maligni, but in a few cases the bacillus coli communis, as in a case recorded in The Mirror of Hospital Practice last year,[1] has been the organism present.

The patient, a man, aged 43 years, was standing on a ladder cleaning the outside of a window when the ladder slipped and in trying to save himself from falling the patient thrust his left arm through the window and sustained a deep cut in the lower part of the left antecubital fossa. The wound involved the following parts: the skin and superficial tissues transversely from the external to the internal border of the forearm, the superficial flexors and pronators near their origin, the tendon of the biceps, the supinator longus, and the brachialis anticus (partially), the radial and ulnar vessels, and the median nerve. Beneath the severed (inner) part of the brachialis anticus there was a small opening in the capsule of the elbow-joint.

After a careful examination of the wound under anæsthesia it was decided that amputation above the elbow would be the safest procedure, but as the patient had begged that if there was even a slight chance of the limb being saved an attempt to do so should be made the prospects of success by conservative treatment had also to be considered. After the severed ends of the radial and ulnar vessels had been tied it was observed that blood flowed freely from the distal ends of the divided superficial veins and the conclusion that the conservative plan might be successful was arrived at. In order to guard as far as possible against infection all bruised tissues were cut away. Thus, after ligature, small portions of the divided blood-vessels were cut away. The cut surfaces of the median nerve and the muscles were similarly freshened before they were re-united by sterilised silk sutures. A drain-way was made from the opening in front out through the back of the joint. The skin and fasciæ were similarly freed from all suspicious parts. During the operation the whole of the wound was repeatedly flooded with 1 in 20 carbolic lotion. Finally, the wound was closed by superficial sutures of silkworm-gut. The limb was dressed with sal alembroth gauze wrung out of hot 1 in 40 carbolic lotion, and was put up on a splint with the elbow flexed to a right angle.

For two days the circulation in the hand was good. The patient's general condition also remained satisfactory until the end of the second day when he complained of much pain in the wound and his temperature rose to 100·5° F. On the morning of the third day the temperature was 101·6°; there was much pain and the circulation in the hand was very feeble. On removing the dressing the typical appearance of spreading or emphysematous gangrene was present. The parts above and below the wound were tumid and on pressure they gave the crackling sound of emphysema. There were many bullæ. The bullæ and emphysema reached to the middle of the upper arm. The patient was at once removed to the theatre where Mr. Clarke amputated the limb at the shoulder-joint by Spence's method. On examining the flap the

[1] THE LANCET, Jan. 22nd, 1898, p. 224.

triceps muscle was seen to be of a dark crimson colour from extravasated blood, and although the muscles had been cut as short as possible this state of the triceps made it appear as if it would have been better to have amputated by skin flaps alone, although none of the skin, subcutaneous tissue, or muscle in the stump showed any trace of emphysema. Before suturing the flap Mr. Clarke packed in a long folded strip of iodoform gauze the upper end of which lay in the glenoid cavity and the lower hung as a drain from the outer angle of the wound.

After the operation the patient's temperature fell to 99° and remained there till the third day when the gauze drain was removed. After this the temperature fell to the normal, healing progressed rapidly, and the patient regained his usual strength and left the hospital on the thirtieth day after the operation.

Remarks by Mr. CLARKE.—The case was a typical one of emphysematous gangrene. The chief local symptoms were pain, rapid swelling with the formation of gas-bubbles and bullæ, together with the putrid odour. Besides the high temperature there were other evidences of septic intoxication—e.g., a pseudo-icteric colour of the body and a markedly furred tongue. The proportion of recoveries after amputation for this condition is a low one—1 in 25 cases.

PRESTON ROYAL INFIRMARY.

A CASE OF RHEUMATOID ARTHRITIS (?); ANKYLOSIS OF BOTH ELBOWS; EXCISION.

(Under the care of Dr. F. W. COLLINSON.)

It is probable that several distinct diseases are included under the name "rheumatoid arthritis" and various attempts have been made at classification.[1] One form is doubtlessly nervous in origin; another is probably due to a very chronic septic cause; and a third is closely connected with chronic rheumatism. In the most typical cases of rheumatoid arthritis ankylosis does not occur, but it is not uncommonly met with in those cases which may be included in the second class mentioned above, and we should feel inclined to place Dr. Collinson's case in this category. But however opinions may differ as to the exact nature of the disease in the case recorded below no two opinions could be held as to the complete success of the operation performed. With regard to the general question as to whether excision should be performed in such cases it may be premised that an operation is advisable in only two joints—namely, the elbow and the tempero-maxillary articulation, for in these only is movement really essential; in all other articulations a firm, fixed joint in good position is preferable to an insecure moveable one, and this applies especially to the hip and knee. In the elbow a good attempt should be made to move the bone forcibly; should this fail an operation is indicated unless the muscles are so much atrophied that the recovery of their function is impossible.

A woman, aged 22 years, was admitted into the Preston Royal Infirmary on June 30th, 1890, and was discharged on Jan. 24th, 1891. Her family history was unimportant; her father died at the age of 47 years from cancer of the nose and her mother died at the age of 57 years from "coughing up blood"; they understood that it came from the stomach, but very possibly it might have been from the lungs. There were no signs of inherited phthisis in the patient. Three brothers were dead, one dying from heart disease; the patient did not know the cause of death of the others; one sister and one brother were living and healthy. There was no hereditary history of gout, rheumatism, or any arthritic affection. The patient's home was near Cheadle in Staffordshire, which she stated to be dry and healthy and where rheumatic complaints are not prevalent. She said that she had always been accustomed to an abundance of good food and had not suffered from any mental worries, from privation, or from catarrhal affections. Up to the age of 11 years she ran about like other children and did not suffer from arthritic affections.

The disease commenced with pain and stiffness in her left ankle, which was treated for a "sprain" though there was no history of accident. The pain continued "to run up and down the leg" and was called "growing pains." There was no tingling or feeling of pins and needles, nor were there signs of acute rheumatism or acute rheumatoid arthritis. In March, 1881, she was first admitted into a large hospital and remained there till the following September, when she returned home a "cripple," her knees being flexed considerably. The affected joints were much enlarged in the early stages. Since this time she appears to have passed her life in hospitals, convalescent homes, and workhouses. From her own account considerable interest was taken in her case by the various medical officers under whose care she was. In one hospital her knees were straightened under an anæsthetic. She continued thus until she was admitted into the Preston Royal Infirmary. Menstruation commenced at the age of 13 years, which was two years after the onset of the disease and when it was far advanced; the flow was slight and she suffered from pains before and after the period. She recently has been comparatively free from pain at these times.

The condition of the patient upon admission into the Preston Royal Infirmary in 1890 was as follows. She was well nourished and rather fresh coloured; there was no suspicion of anæmia. Her general health was good except that she had pains in several of her joints as well as pains of a neuralgic character. For these the usual remedies were given but with little benefit, and morphia had to be injected hypodermically several times when pains were severe. The temperature was always normal except on occasions when she complained of severe pain in the spine and then it only rose a degree or so. All her joints were more or less affected, but with the exception of the inter-phalangeal joints there were no signs of bony enlargements. In the illustrations the Heberden's nodules can be seen on the right middle finger. In the tempero-maxillary joints there was at one time marked limitation of movement and during her stay in the infirmary she could at times take liquid food only, owing to the stiffness of these joints. The shoulders and hip-joints were only very slightly affected. The left ankle was completely ankylosed in a partially extended position. The right wrist was also absolutely ankylosed and remains so; the left wrist was moveable through an angle of 30°, whilst the styloid process stood out as if dislocated. The deformities of the fingers are well shown in the illustrations, the extent of movement being very much limited in several of the joints; there was in the left hand the usual ulnar adduction of the first two phalanges with radial abduction of the terminal phalanges. Dr. J. Kent Spender says in "Allbutt's System of Medicine" that "deformities of muscular origin may be established at a comparatively early stage of the disease, and they are frequently more marked in cases in which the enlargement of the joints is comparatively insignificant." The elbows were the joints which attracted most interest. The right elbow was absolutely fixed, not allowing, even under chloroform, the slightest movement; when an endeavour was made forcibly to bend it under the anæsthetic a fracture of the humerus at the epiphyseal juncture took place. The left elbow could only be bent through an angle of from 8° to 10°. The upper and lower arm made with each other an angle of about 150° which prevented her from touching her head or attending to her physiological functions. When taking her food she adopted the ingenious method of cutting it up, placing it upon her knee, and then by bending the body and lowering her head and at the same time raising the knee she managed to get it into her mouth. The spine was not affected.

After consultation of the honorary staff it was decided to try, under chloroform, forcibly to bend the elbows (referred to above) and should that be found to be impossible to excise the joints one at a time. The right elbow was excised on Sept. 9th. No more of the humerus was taken away than had been broken off in the attempt to bend it and the periosteum was spared as much as possible. On Dec. 1st the other elbow was excised. They both healed quickly and on Jan. 24th, 1891, the patient went out to a convalescent home. Dr. Collinson regrets that there are not any notes as to the state of the joints, but writing from memory the cartilages were not much roughened and the ankylosis appeared more due to alteration of the capsule and the fibrous structures around.

In August, 1891, the patient reported herself and she was well, earning her own living. Two years ago she again went to the infirmary to show herself. She stated that she had been married and had one boy, who was with her and was quite healthy. She had had two miscarriages. She had

[1] Goldthwait: Boston Medical and Surgical Journal, Jan. 28th, 1897; Fox: International Medical Magazine, September, 1895.

not any difficulty in parturition. The condition of her elbows was as follows (see illustrations, reproduced from photographs which were taken at the time by Dr. L. E. Hardy, senior house surgeon). In the right elbow there was almost perfect power of extension and flexion with practically no lateral movement; the power of prona-

FIG. 1.

Rheumatoid arthritis; ankylosis of both elbows; excision. Showing amount of flexion.

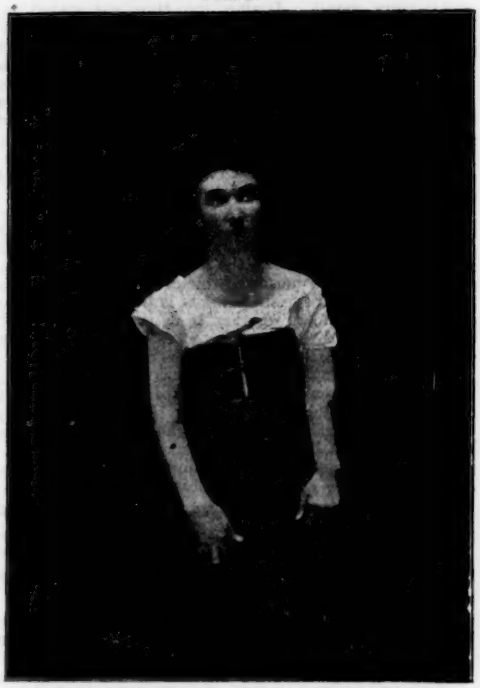
tion and supination was *nil*, but this was due to the absolute ankylosis of her wrist. She could lift and hold out heavy weights and could push anyone away very forcibly, displaying a considerable power in her triceps. In the left arm the power of extension, though fair, was not so good as in the right arm, and there was a certain amount of lateral movement; she could, however, lift and carry chairs with it. She could touch any part of her head and, were it not for the crippled state of her wrists and hands, she would have been able to touch any part of her body. The illustrations show well the condition of her arms. In Fig. 1 is shown the power of flexion and in Fig. 2 the extreme extension, which in the right elbow stops short at the natural angle, whilst in the left elbow there is seen some dorsiflexion. The roundness of the limbs and the state of the muscles are well seen. Since the operations she had not required any surgical attention for her joints and she had been able to do her housework well. She had suffered from pains in her joints at times, but the elbows had given much less pain than the other joints. There was slight grating in the temporo-maxillary joints. Her general health was the same as it had been six years previously. She was well nourished, ruddy, and fairly muscular; her hands were moist, the heart was normal, and the pulse was 90, regular and strong. The patellar reflexes were slightly increased and the reflexes in the arms were the same.

Remarks by Dr. COLLINSON.—My reasons for reporting the above case are as follows:—(1) This affection is somewhat uncommon at the age at which it began in the patient; (2) the silence of authorities upon the subject of excision; (3) the good result of the excision, the muscles having apparently recovered after disuse for some years; and (4) to draw the attention of the profession to the subject of excision so that some indications may be laid down for guidance in the selection of cases in which it would be judicious to operate.

The correctness of the diagnosis in the above case might be questioned owing to the absence of certain points in the history and physical signs—namely, the absence in the history of any hereditary tendency to joint mischief, of any apparent connexion with the menstrual history, of any exposure to damp, privation, or other depressing causes, or of any catarrhs of mucous membranes, of any tingling, formication, or other prodromal symptoms, excepting so-called "growing pains," and in the physical signs, the absence of any osteophytic outgrowths, the absence of any very marked muscular atrophy so generally found in rheumatoid arthritis, and also the very complete recovery after the removal of the mechanical obstruction to movement.

Jaccoud described a condition of *rheumatisme fibreux* which usually follows attacks of acute rheumatism. Dr. Archibald Garrod states that in this affection "the finger-joints may present fusiform enlargements, which may disappear under observation or may be permanent. Such enlargement may result from thickening of the joint capsule; and although the resemblance to rheumatoid arthritis is so striking the cartilage and bones may show no morbid change post mortem." "The immunity of the temporo-maxillary joints and the absence of any distinct lipping of the osteophytic outgrowths are points which may aid in the diagnosis of this 'fibrous rheumatism' from true rheumatoid arthritis; but even when every care is taken a certain diagnosis may sometimes be impossible, at any rate for a time; and the resemblance between the two maladies is increased by the fact that in both the atrophy and the contraction of the muscles which control the affected joints produce deformities of similar kinds." Dr. G. F. Still states that when rheumatoid arthritis affects the young there are generally more enlargement of the joints and thickening of the peri-articular tissues and less bony outgrowths. Wagner speaks of a class of cases of rheumatoid arthritis found in

FIG. 2.



Rheumatoid arthritis; ankylosis of both elbows; excision. Showing amount of extension.

the young where, like *rheumatisme fibreux* "the bones are held together by fibrous bands without bony outgrowths or destruction of cartilage." It would appear that there is great uncertainty as to the border line between the fibrous rheumatism and rheumatoid arthritis.

Although the above case may answer to much of the description of the *rheumatisme fibreux*, nevertheless I certainly think that the diagnosis of rheumatoid arthritis is

the more correct. Even if it be granted that the diagnosis is doubtful, still the point of treatment remains the same. In both affections deformity and uselessness are present in advanced cases and in each, therefore, interference is called for where feasible and clearly indicated. My patient was in a very deplorable condition when her inability to eat her food properly and to attend to her physiological wants are considered. The necessity for relief was urgent, if by any means the power of flexion of the elbows could be recovered. The fact that this patient had been for years under prominent and able men in large hospitals, and that quite a short time before she came to us she was told, in answer to a question as to whether something could not be done for her, "that nothing was possible," has impressed upon me the thought that the subject of excision of ankylosed joints in rheumatoid arthritis has not been sufficiently brought before the profession and that thought has prompted me to communicate this case. In Neale's Digest amongst methods of treatment excision is not mentioned, nor in medical manuals is any hint found that it would be well to consult a surgeon as to the possibility of rendering aid in this way. Dr. Archibald Garrod, in his paper in "Allbutt's System of Medicine," does not mention it. Dr. Bannatyne says that his experience of excision in such cases is very slight; from what he says evidently it is confined to the joints where ankylosis is welcomed after operation. Forcible moving of the joints is recommended, but nothing more heroic.

The indiscriminate advice to excise ankylosed elbows in this disease would, I am sure, lead to many disastrous results. The cases must be carefully selected, for it appears to me that it can only be useful where the patients are young and where the muscles may be able to recover their tone. Some time after the operation recorded above another patient came under my treatment in the infirmary suffering from rheumatoid arthritis with ankylosis of an elbow at a useless angle, and she asked that something might be done to it if any amelioration was possible. She had heard of the previous case. I excised the joint, but with far from a satisfactory result. During the time she stayed in the infirmary the muscles had not recovered their power and consequently she could not steady the elbow. I am sorry I have not been able to find out anything regarding the after-history of the last patient, as it would have been interesting to follow her history and see if the muscles in time regained any part of their original power. She was about 45 years of age.

It would be well if those members of the profession who have the opportunity of observing a large number of these patients would give this subject consideration and in time lay down certain canons of action. I would like to suggest that excision must be confined to cases of ankylosis amongst the young before the age of degenerative processes has set in. In the case of the subject of this paper the very perfect recovery of muscles, which for years had been out of use, proves that in certain patients it is right to give excision a trial. One wonders whether, if in the early stages of this case movements had been insisted upon, the ankylosis would have occurred which necessitated the operations.

If the recording of this case has the effect of inciting others to place on record their experiences, so that a trustworthy classification of cases may be agreed upon to guide those of less experience as to when to excise or when to stay their hands, I shall be satisfied. There must be at least a small number of cases in a similar unhappy condition to that in which my patient was before the operations.

BRISTOL CONVALESCENT HOME.—Sir Frederick Wills has promised an additional gift of £1000 to the Bristol Convalescent Home, provided that the whole £100,000 asked for be subscribed before the Queen's visit in November. This leaves a little more than £3000 still to be raised.

TYPHOID FEVER IN CORNWALL.—The Sanitary Committee of the Cornwall County Council reports that during September 77 cases of typhoid fever with eight deaths were notified in Cornwall, against 69 cases with nine deaths in August. The cases occurred in 12 districts, of which four were rural and eight were urban. The rural districts were Liskeard (two cases), St. Germans (nine cases), Truro (eight cases), Redruth (one case), and East Kerrier (seven cases). The urban districts were Truro City (three cases), Penryn (three cases), Helston (one case), Falmouth (27 cases, a decrease of 18 compared with August), St. Ives (five cases), Penzance (three cases), and Camborne (eight cases).

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Oct 27th, Sir R. DOUGLAS POWELL President, being in the chair.

Dr. LEONARD GUTHRIE and Mr. STANSFIELD COLLIER showed a case of Cerebellar Tumour successfully treated by trephining and drainage. The patient was a boy, aged nine years, and at the present time, 18 months after operation, was in perfect health except for blindness due to double optic neuritis. He was admitted to the Children's Hospital, Paddington-green, in February, 1898. Five years before he had had a fall on the head, followed by profuse epistaxis, but had remained well until 12 months before admission when headaches came on. They got worse and were accompanied by drowsiness, yawning, and unsteadiness of gait. On admission the walk was typically cerebellar, the movements of the arms, especially of the right, were ataxic, and there was intense double optic neuritis with considerable loss of sight. All the tendon reflexes were normal. The patient became progressively worse and had a tendency to fall backwards or from side to side. The headache became worse and was constantly referred to the left inner canthus, a feature which suggested, according to Purves Stewart, lesion of the right cerebellum. The grasp of the right hand became weaker than the left, but the left knee-jerk entirely disappeared, the right remaining active. The pulse was very weak and the breathing became shallow, irregular, and sighing. The respirations fell to from 13 to 15 a minute and, at intervals of a minute, periods of apnœa occurred, lasting from 10 to 15 seconds. In the first operation the left lobe was exposed, but five days later a trocar and cannula were introduced from the right side upwards, inwards, and forwards. About one ounce of clear yellow, highly albuminous fluid was withdrawn. These features and the fact that it did not reduce Fehling's solution excluded cerebro-spinal fluid. The patient made a good recovery and during the 18 months since the operation there had been no recurrence of any of the symptoms. The patient was perfectly well but was completely blind.—The PRESIDENT remarked that it was strange if the lesion was a glioma that no further symptoms had developed.—Dr. GUTHRIE, in replying, regretted that the operation had not been done a month earlier and then the sight, he thought, might have been preserved. Fluid from gliomatous cysts corresponded in all respects with the fluid withdrawn from this case. The cyst might have been hæmorrhagic in origin, judging from the contents, but a cystic glioma occupying the middle lobe of the cerebellum was more probable.

Mr. G. R TURNER exhibited a case of Actinomycosis in Process of Cure. The patient, a man, aged 42 years, first went to St. George's Hospital on April 28th with what looked like an abscess of the right cheek. Incisions were made and these left fistulæ discharging thin sero-purulent fluid. On examining this a ray-fungus was discovered. 15 grains of iodide of potassium were given three times a day and the drug was rapidly increased to doses of 45 grains. The sinuses were repeatedly scraped and the patient made a good recovery. Mr. Turner thought that there were questions relating to the etiology of the disease which ought to be worked out more fully, both as to the precise nature of the organism in man and the means by which it passed into the human body.—Dr. CHARLES SLATER had studied the bacteriology of this case with great care and thoroughness. The small yellowish specks obtained from the pus and scrapings of the sinuses consisted of masses of mycelium arranged in a radiate manner and staining by Gram's method. The mycelium was of the size usually found in the nodules of actinomycosis and branched dichotomously but presented no clubs at the extremities of the filaments though they were slightly swollen. Cultures were made on agar, bouillon, and serum and these behaved differently to actinomycosis cultures. Dr. Slater had come to the conclusion that the organism was a streptothrix differing from the ordinary cultures of actinomycosis bovis and resembling some of the many streptothrix organisms which could, however, give rise to the same clinical manifestations as did actinomycosis.—Mr. TURNER thought it was doubtful whether the true ray-fungus

of animals was ever really found in man and asked if there was any actual proof of the mode of introduction such as had been hitherto supposed. Any way, it seemed probable that the lesions might be caused by more than one fungus.—Mr. ARTHUR E. J. BARKER referred to the fact that the lesions of actinomycosis were generally in some way connected with the alimentary tract and this certainly pointed rather to the introduction of the fungus through that channel. It was true, however, that sometimes the lesions were found elsewhere. He referred to one patient who had had localised swellings in the abdominal wall and these were found to contain a greenish-yellow discharge with ray-fungus. The occupation of this patient had not brought him in contact with hay, for he was a dispenser to a country practitioner.

Mr. G. R TURNER also exhibited a case of Osteitis Deformans. The patient was a man, aged 74 years. The swelling on the jaw had only been of seven or eight weeks' duration but enlargement of the head had existed for a much longer time. The tibiæ were swollen and bent, the forearms were a trifle long, the ribs were thickened, and the respirations were diaphragmatic. The jaws had begun to enlarge six months ago and his remaining teeth had been taken out six weeks ago. He walked with the typically shuffling gait and with the head and chest bent. There were no signs of acromegaly. He had been much benefited by iodide of potassium. At the present time he was able to wear the same hat, whereas formerly he was continually changing his hats as his head became too large.—Dr. EWART, in view of the important results achieved by the treatment, asked if measurements of the head had been taken so as to be certain about the improvement. He had failed with iodide of potassium in such cases.—The PRESIDENT asked if the patient had notably lost weight, for that was another method of gauging improvement.—Mr. TURNER, in reply, said he could not give measurements, but the patient was quite convinced that he was better and he was certainly more active He was now able to walk without a stick and he had lost in weight. The swelling of the jaw made him (Mr. Turner) fear that malignant disease might terminate this case as it had done in some of Sir James Paget's original cases.

Mr. J. JACKSON CLARKE showed a patient, aged 56 years, on whom he had performed Kraske's Operation for Cancer of the Rectum on May 5th. Symptoms of rectal trouble had existed for only three months. On admission the lower margin of the growth reached to within two and a half inches of the anus and it was fairly moveable. The operation was performed without a preliminary colotomy. The coccyx and lower part of the sacrum as high as the third foramen were removed and the peritoneum was closed with fine silk sutures before removing the growth. The patient was somewhat collapsed after the operation but he made an uninterrupted recovery and had now returned to work. In patients who were not too old and whose general health was fair Kraske's operation was much preferable to colotomy. Rapidity in the earlier stages of the operation was the best way to prevent undue loss of blood.—Mr. FREDERIC EVE did not think the bowel need be quite freely moveable for this operation. He had operated successfully on cases in which there had been a good deal of adhesion around the bowel.—Mr. CLARKE replied that he would not advise Kraske's operation if there was much adhesion to the bladder. Adhesions behind did not matter and these had existed in his case.

Mr. WATSON CHEYNE showed a case of Dislocation of the Right Hip-joint with Fracture of the Rim of the Acetabulum reduced by operation. The patient, aged 60 years, fell between two vessels with his right thigh flexed and was caught between the knee and the sacrum with the result that the right hip was dislocated on to the dorsum ilii and the lower and posterior rim of the acetabulum was broken off. He was admitted to King's College Hospital six weeks after the accident and as attempts to remedy the condition without operation failed an operation was performed on Feb. 22nd. The joint was exposed by a long anterior incision and the acetabulum, which was filled up with soft material, was cleared out and the dislocation readily reduced by manipulation. No muscular or other structures were divided. The limb was put up somewhat abducted and rotated outwards in order to prevent recurrence of the deformity and extension was applied. The wound healed by first intention, the splint was left off on April 17th, and the patient left the hospital on April 28th. At that time he walked with crutches and could also stand without support. At the present time he walked quite well without support and had resumed his work as a stevedore.

Dr. SIDNEY PHILLIPS showed a case of Cystic Disease of the Kidneys occurring in a man, aged 40 years, whose health had always been good except for occasional attacks of gout. In August, 1899, he had a fall over a cliff and passed blood in the urine for a time after this. He had never passed blood previously to this. On Oct. 2nd, 1899, he experienced intense pain in the left loin and back and the urine contained blood. On Oct. 9th he went into St. Mary's Hospital for synovial effusion into the left knee and ankle joints, probably of gouty origin. He was also found to have in each flank a tumour, of which he had previously been unaware, of about the size of a cocoa-nut, that on the left side being the larger The tumours were ovoid in contour, nodular on the surface, without pain or tenderness, and were fairly moveable upwards to just beneath the costal arch and downwards to the brim of the pelvis. When first seen there was $\frac{1}{20}$th albumin in the urine, which was blood-stained. Both blood and albumin had gradually disappeared and the urine was now clear and of specific gravity 1012, and an average of 64 ounces a day was passed. There had never been any pus in the urine. Dr. Phillips thought that this history, in the absence of any distinct evidences of tubercle or of calculus, rendered it probable that the case was one of cystic degeneration. Such cases were said to be always congenital in origin, though they might only take on rapid growth in adult life.—Dr. COODE ADAMS said he would like to know if there were any symptoms by which these cases could be recognised in the early stages. He referred to a case which occurred in his own practice of a boy, 11 years of age, who had been under care for two years and suddenly one morning he was found dead in bed. The necropsy revealed cystic kidneys —In reply to the PRESIDENT he said that the heart was normal.—Surgeon-Major LONGFORD did not feel quite satisfied that the case was really one of cystic kidneys. The appearance of the patient was pale and it was not very usual to find extensive cystic disease coming on in this way. He would like to know if any exploratory aspiration had been made —Dr. PHILLIPS, in replying, stated that there was a diminution in the quantity of urea. These cases usually died from uræmia when the kidney substance was sufficiently destroyed. The diagnosis was not certain, but it could hardly be a malignant lesion which had reached such a size without any marked pain, tenderness, or cachexia. The pallor was accounted for by the patient's occupation—that of a tailor.

Dr. WILLIAM EWART showed two cases of "Upward" Dilatation of the Stomach. The symptoms complained of were an ill-defined feeling of malaise, together with embarrassment of the heart's action and respiration. The first patient had suffered from so much discomfort for two and a half years that he was unable to earn his livelihood. The condition had begun suddenly after a prolonged bicycle ride with consequent exhaustion. The second patient was also unable to work, but in him much exertion brought on severe anginoid seizures. Here the gastric dilatation was probably due to unmasticated food, for the teeth were very bad. In both cases the præcordial region was encroached upon by the stomach resonance which in the first case rose as high as the left nipple. Both patients had improved under respiratory exercises—a line of treatment which was directed to strengthening the diaphragm and abdominal muscles—and the wearing of an abdominal belt.

Dr. HERRINGHAM exhibited a case of Scleroderma with attacks of local syncope in a man, aged 30 years. The illness had commenced at Christmas last with pains in the hands and arms which had subsequently extended to the shoulders. In the spring he had had for the first time attacks of "numbness" in the hands, during which the hands became quite white and cold up to the wrists, though the radial pulse was normal. Since he had taken to bed he had had no attacks of this local syncope. Local syncope was one of the forms of disease described by Raynaud, but in this case the skin condition was the primary one, and the loins, the thighs, the hands, and the forearms were "hide-bound." There was contraction of the flexors of the carpus and this caused permanent bending of the wrists. On movement the tendons grated in their sheaths. The scleroderma had affected the deeper structures as well. So "hide-bound" was the skin at the back that the patient could not rise from his seat without assistance. The feet also were involved.

Mr. FREDERIC EVE brought forward the case of a woman,

aged 44 years, still menstruating, who was the subject of a recurrent Carcinoma of the Breast treated by thyroid extract and oöphorectomy. In 1892 a lump had formed in the right breast. In July, 1895, when she first came to Mr. Eve, there were ulceration and infiltration of the right mamma which he removed together with the axillary glands. She remained well until the summer of 1898, when two nodules appeared in the skin above the scar, which was also infiltrated and attended by enlargement of the supraclavicular glands. Oöphorectomy was performed and a week or two afterwards thyroid extract was started. She had taken from 15 to 20 grains of thyroid extract thrice daily since then. A few months later very great amelioration had taken place and in March last she was completely free from any evidence of malignant disease. However, at the present moment there were two small nodules beside the scar and the enlarged glands in the posterior triangle had returned.—Mr. STANLEY BOYD referred to the operation of oöphorectomy in cases of malignant disease and remarked that some cases were greatly benefited but others were not. He wished that there were some guides as to which cases could be so relieved. He had lately been consulted by a woman, aged 46 years, who was menstruating regularly, for a recurrence of a serious growth in the breast, of the size of the palm of the hand, extending over the chest. Everyone who saw the case agreed that the patient had no chance, but oöphorectomy was performed in June, 1899. The whole of the mass had now entirely disappeared, an effect which was truly remarkable. He did not believe that thyroid extract had much influence in these cases.—Mr. WATSON CHEYNE had seen the case referred to by the previous speaker and it certainly was a most striking result. He had also seen a case which resembled Mr. Eve's in that it improved for six months and then relapsed. In another case, that of a woman whose breast he had removed five years before, with enlarged glands behind the clavicle, the cancer was progressing very rapidly when, at the end of last July, he performed oöphorectomy. The whole disease had since disappeared. She took thyroid, but, like Mr. Boyd, he did not believe it had the slightest effect in these cases. He referred to a case of fibroid of the uterus attended by extensive cancer of the breast. Double oöphorectomy was performed and the cancer of the breast was scraped away as much as possible. Six months later both the cancer and the fibroid had disappeared. Undoubtedly this operation was often a most valuable one in cancer of the breast, but he agreed that it was impossible to say beforehand what the result would be.—Mr. EVE, in replying, referred to a woman, aged 43 years, in whom both the glands and the breast were involved. These were removed and thyroid extract was given very soon after operation, but cancer returned in two months all the same. Then he did oöphorectomy, but the scirrhus grew just as rapidly.

Mr. R. HEATHER BIGG demonstrated a Splint for a Fractured Clavicle, consisting of a sort of crutch which, with the straps, ensured absolute fixation of elbow and shoulder-joint. He also showed a case of Railway Injury in which the outer third of the clavicle had been crushed and possibly the acromion also. The splint had been adjusted and left for three weeks, and very shortly afterwards all the joint motions were found to be quite restored. Little or no callus had been formed on account of the immobility.

Dr. PERCY KIDD exhibited a case of Primary Epithelioma of the Epiglottis in a man, aged 60 years, who gave a history of dysphagia extending over two years. The epiglottis was replaced by a large cauliflower growth which had recently increased considerably in size. The interior of the larynx at first was quite healthy, but owing to the increasing tumefaction of the epiglottis the vocal cords could not now be thoroughly inspected, but as far as could be seen there was no growth within the larynx.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Inaugural Address.—Tumours diagnosed as Sarcomata.—Œdema without Albuminuria.—Exhibition of Cases and Specimens.

THE opening meeting of this society was held on Oct. 20th, Professor C. J WRIGHT, President, being in the chair.

The PRESIDENT delivered his Inaugural Address.

Dr. E. WARD read a paper on two cases of Tumour due to Injury of Large Arteries and diagnosed as Sarcomata.—Mr. MOYNIHAN had seen the first case mentioned with Mr. Ward and felt convinced after careful examination that the case was one of sarcoma and inoperable. With regard to the occurrence of gangrene after ligature in the treatment of aneurysm Mr. Moynihan called attention to the statistics of Professor Delbet which showed that death of the limb was three times more frequent after ligature than after excision of the aneurysmal sac. The gangrene could not be due to insufficiency of the collateral circulation, as it was commonly observed that gangrene did not occur until many days after the operation. In most cases the gangrene was probably embolic. In the aneurysmal sac after ligature a loose clot was formed. On the re-establishment of the circulation by enlargement of the collateral vessels the blood passing into and through the sac washed away in its stream fragments of this newly-formed clot. A shower of minute clots might be carried onwards and, reaching the smaller distal vessels, become stopped. A series of embolic plugs was thus formed which effectually cut off the circulation through many vessels at the same time and gangrene became inevitable.—Mr. E. WARD replied.

Dr. T. CHURTON read notes of cases of Œdema without Albuminuria or obvious Heart Disease. Formerly rare, such cases were now frequent. The first case was observed 20 years ago in a child, aged two years; she had anasarca without albuminuria or any discoverable cause. The patient recovered in three months and was still alive though not robust. The last case occurred in June, 1899, in a woman, aged 45 years, not robust but very active and zealous. The eyelids were puffy, especially in the morning, and the legs were swollen below the knees, pitting deeply at the ankles. In addition to other work she spent much time in her garden and greenhouses even in the hottest weather. She had pain in some joints, supposed to be rheumatic. There were no albuminuria and no dyspnœa, the heart-sounds were normal, and the pulse was good. The diagnosis seemed to lie between "tropical" œdema and rheumatic œdema. With partial rest she recovered in a month. The first case was probably bacterial (? bacillus lymphagogon of Hamburger). In one case the right arm was not included in the otherwise general dropsy. So far all the cases had recovered, but in some there was a recurrence in a year or two, while in others chronic nephritis or alcoholic neuritis had subsequently occurred. One patient during the usual rapid disappearance of the œdema passed 240 ounces of urine in 24 hours.—Dr. A. G. BARRS discussed the paper and Dr. CHURTON replied.

Dr. J. B. HELLIER showed:—1. A case of Obstetrical Brachial Paralysis (Erb's palsy). At birth the head presented but the shoulders were arrested and the child was delivered with very great difficulty but without forceps. Now, at three months old, the deltoid and the flexor and supinator muscles of the forearm were paralysed and wasted. The hand was strongly pronated and abducted to the ulnar side. 2 Specimen of a Dermoid Ovarian Cyst with Double Pyosalpinx. 3. Specimen showing the rare condition known as Cystic or Vesicular Degeneration of the Omentum.

Mr. LITTLEWOOD showed (1) a case of Branchial Cysts and (2) specimens of Early Ruptured Tubal Pregnancy, Loose Cartilages from the Knee-joint, and a Primary Sarcoma from the Soleus Muscle.

Dr. WARDROP GRIFFITH showed a small Aneurysm on one of the secondary branches of the anterior cerebral artery which had resulted in rupture and hæmorrhage into the right hemisphere. The man was the subject of old mitral disease and the aneurysm was probably embolic. There was no evidence of the endocarditis having been of the ulcerative or infective type.

Mr. B. G. A MOYNIHAN showed (1) three cases of Complete Excision of the Tongue with glands of both sides treated immediately after the operation by anti-streptococcic serum; (2) a case of complete Rupture of the Intestine with Intraperitoneal Hæmorrhage, operation, recovery; (3) a case of Gastrostomy by Kader's method and a specimen from a similar case; and (4) a case of Spina Bifida (meningocele).

Dr. CHURTON showed:—1. A Normal Heart Transfixed by a Needle passed through the third left intercostal space at the junction of the sternum with the fourth cartilage. The needle passed through the margin of the right ventricle, close to the septum, and was just visible in the pulmonary conus two-thirds of an inch below the nearest valve-cusp; beneath this it passed through the middle of the aortic conus half an

inch below the cusps and thence through the posterior wall of the left ventricle one-eighth of an inch below or to the left of the left auricle. 2. A Heart from a young man, aged 18 years, who died from Aortic Regurgitation and Dilatation of Left and Right Ventricles. The regurgitant bruit had been loudest over the fifth and sixth costal cartilages near the sternum. A needle passed through the fourth space at the upper margin of the fifth cartilage, a quarter of an inch from the sternum, transfixed the right ventricle half an inch from its left margin, the pulmonary conus one and a half inches from the valve (the total length of the distended ventricle being four and a half inches), the aortic conus one inch from the valve (the length of the ventricle was five and a half inches), the anterior mitral flap close to its free margin, and, passing between the chordæ of the posterior flap, perforated the posterior wall of the ventricle one inch from the auricle. Early aortic regurgitant murmurs were heard over the fourth left cartilage near the sternum, that is, directly over the aortic conus, into which the regurgitating jet of blood flowed at a time when the pulmonary conus in front of it was empty, so that there was continuous solid tissue between the regurgitant stream and the auscultating ear.

Dr. POWELL WHITE showed specimens from an Epithelioma with a Horn.

Dr. BARRS showed (1) a case of Exfoliative Dermatitis; and (2) a specimen of Pylephlebitis Secondary to Appendicitis.

Mr. CAMMIDGE showed a completely Calcified Anterior Tibial Artery taken from a young subject with popliteal aneurysm.

Mr. SECKER WALKER showed (1) a Tumour of the Lacrymal Gland removed from a woman, aged 60 years (the growth proved to be a cylindroma); (2) a Non-pigmented Growth from the Choroid; and (3) Sections of an Eye the subject of Chronic Glaucoma.

Dr. E. F. TREVELYAN showed (1) a case with a Crop of Papules on the Soft Palate of unknown origin; and (2) a case of Diphtheritic Paralysis with Incoördination in a man.

CLINICAL SOCIETY OF MANCHESTER.

The Prognosis in Certain Chronic Diseases of the Nervous System.

A MEETING of this society was held on Oct. 17th, Dr. JUDSON S. BURY, President, being in the chair.

The PRESIDENT opened a discussion upon the Prognosis in Certain Chronic Diseases of the Nervous System. He said that the tendency of wide experience was to make them more cautious regarding the prognosis of apparently trivial ailments and more hopeful regarding diseases which as a rule pursue a downward path. Even a slight illness might leave behind it a weak spot which subsequently was injuriously affected by a toxin or other irritating agent and became the starting-point of chronic progressive disease — e.g., disseminated sclerosis following measles, chronic neurasthenia following blows on the head, and sclerosis of the spinal cord following slight injuries to the back. On the other hand, severe organic disease was not always fatal; the morbid process might be arrested and exceptionally even completely cured. One of the cases mentioned was that of a boy who had suffered for 12 years from attacks of severe headache and vertigo, no objective symptoms, however, being detected during that period. Then temporal hemianopsia had been discovered, optic neuritis had supervened, and a diagnosis of tumour involving the middle of the optic chiasma had been thought to be justifiable. At the time of the report the patient was 25 years old, nearly blind from optic atrophy, but in fair general health. Another case was that of a syphilitic man who had had right hemiplegia and complete paralysis of all the muscles supplied by the left third cranial nerve; two years later the symptoms, which had indicated a lesion of the left crus, had entirely passed away. In disseminated sclerosis, locomotor ataxy, general paralysis, and other chronic nervous diseases periods of marked improvement were frequent, and sometimes formidable symptoms, such as paralysis of a limb or of a cranial nerve, completely disappeared. To illustrate these statements the President gave the clinical histories (extending over many years) of some remarkable cases of the diseases mentioned.

Dr. DRESCHFELD agreed with the remarks that the prognosis in many chronic diseases of the nervous system was not so unfavourable as was usually supposed and quoted a large number of interesting cases in support of this view.

Dr. LEDWARD related and showed as bearing upon the prognosis of disseminated sclerosis the case of a boy who had had all the classical symptoms of the disease five years previously. He had been under observation all through that period and his symptoms had undergone considerable improvement.

Dr. RAILTON remarked upon the difficulties which might arise in the differentiation of cases of cerebellar tumour from cases of distension of the ventricles—headache, vomiting, and optic neuritis being often present in both—and gave the histories of two cases of the latter disease. With regard to the prognosis of locomotor ataxy he cited the case of a patient in whom, 15 years previously, he had found loss of knee-jerks and pupil light reflexes together with lightning pains. There was a history of syphilis and the patient had been put under mercurial treatment for a prolonged period. There was no evidence of the disease having advanced beyond the pre ataxic stage of 15 years before, and although the knee-jerks were still absent the lightning pains had almost entirely ceased.

Dr. REYNOLDS mentioned that in workhouse infirmary practice where patients remained in the wards for many years one saw many chronic nervous affections improve to an extent not seen in ordinary general hospitals where the period of rest in bed was comparatively short. As regards disseminated sclerosis he mentioned a case in which for a year the first symptoms were apparently those of typical hysteria and the classical signs of disseminated sclerosis came on fairly rapidly. In another case after many years the only sign seen was hemiatrophy of the tongue, and in another the tremors practically disappeared, leaving only spastic paraplegia, not severe in character. In general paralysis of the insane he had never seen recovery if there had been Argyll-Robertson pupil and altered knee-jerks, although in such cases a remission might occur in which all mental symptoms disappeared and the patient was apparently well except for slight physical signs, but relapse and death always occurred in such cases as he had observed. Apparent recovery from some of the prominent symptoms of locomotor ataxia under treatment by anti-syphilitic remedies was often due to the fact that the prominent symptoms in these cases were probably due largely to a diffuse syphilitic meningitis.

Mr. THORBURN referred to the evidence of regeneration of the spinal cord after traumatic and pressure lesions and in particular to the possibilities of recovery from paraplegia due to spinal caries, tumours, gummata, and injuries. He insisted upon the position that if the cells or fibres of the cord were destroyed no anatomical or physiological recovery would occur, but that if their physiological activity was arrested by pressure lesions only, then the removal of the source of pressure left them with a good prognosis. In the paraplegia of spinal caries extensive statistics would appear to show that more than one half of all cases recovered almost completely, but in all cases there probably remained some clumsiness, feebleness, and especially exaggeration of the deep reflexes. In diseases of the cord other than those above mentioned the inferential probability was that the amount of recovery would depend mainly upon two factors—namely, the amount of destruction as opposed to pressure and the possibility of causing absorption of sclerotic tissue closely intermixed with nervous structures.

Dr. WAHLTUCH remarked that during the past 25 years the diagnosis of nervous diseases had made great progress, whilst prognosis showed little advance. He referred to locomotor ataxy being curable in the early stage and when advanced often remaining stationary, with improved symptoms, for years.

IPSWICH CLINICAL SOCIETY.—The first meeting of this society was held at the East Suffolk and Ipswich Hospital on Oct. 12th, Mr. S. O. Eades (President) being in the chair.—The collection of pathological specimens added to the museum of the society during the past year was exhibited.—Dr. Brown showed a case of Spastic Paraplegia due to Spinal Caries in a child eight years old. The condition had been present for 12 months and had not improved during the past six months. Dr. Brown intended to perform the operation of laminectomy.—Mr. Davies showed a child, aged nine years, with Advanced Pseudo-hypertrophic Paralysis.—Dr. Brown described a case of Cancer of the Cæcum.

on which Mr. Dean had operated with brilliant success. The patient was a middle-aged woman and the symptoms present were emaciation, constipation, some abdominal pain, and slight occasional vomiting. Careful observation of the peristaltic movements led Dr. Brown to diagnose obstruction at the cæcum. At the first operation, on June 14th, an incision in the middle line revealed a malignant growth of the cæcum. The distended bowel was incised, emptied, and sutured. A second incision was then made over the cæcum which was then united to the skin. The ileum was divided close to the cæcum and a Paul's tube was fastened in. The intestine was washed out through this and its contents evacuated through a long rubber tube attached to the Paul's tube. The tube came away four days later, leaving an artificial anus. On July 19th a second operation was performed by Mr. Dean. The incision was made about an inch to the inner side of the cæcum. The ileum and ascending colon were united by means of a Murphy's button. The new growth with the skin, including the artificial anus, and about two inches of the ascending colon were then removed *en masse* and the skin wound was closed. The cæcum was found to be completely blocked by new growth, which appeared to take origin in the ileo-cæcal valve. The patient is now well; she has gained flesh rapidly and the bowels act normally *per vias naturales*.—Mr. Hossack showed a cheap and convenient form of Electric Lamp for illuminating cavities and in operation work.—Mr. Sinclair showed a man with a Chip of Iron embedded in the Ciliary Region of his Left Eye. The patient came first under treatment a few days after the accident, which took place two and a half years ago. The electro-magnet was introduced into the eye without result. The eye recovered rapidly and regained good vision (V. = $\frac{6}{9}$) and remained well for two years. Then vision gradually failed without pain or congestion, the failure being due to dense exudation over the posterior surface of the lens. An x ray photograph demonstrated the presence of the foreign body. This was localised by Dr. Mackenzie Davidson. The greater part of the lens was removed and the electro-magnet was again used. The foreign body was so firmly embedded that the magnet failed to withdraw it. The eye recovered rapidly from the operation and has remained quiet since, but vision is now reduced to hand movements. The chief point of interest in the case was that a foreign body could remain in the "dangerous zone" of the eye for so long as two years without causing inflammatory symptoms or affecting the vision, and that after this lapse of time a slow process of exudation should set in. The case illustrated the fact that an eye which contained a foreign body was never safe.

MANCHESTER THERAPEUTICAL SOCIETY.—The first meeting of this society for the present session was held at the Owens College on Oct. 25th, Professor Dreschfeld, the President, being in the chair. He gave an address on the Dietetic Treatment of Disease. He pointed out that the proper nutrition of the patient was one of the most essential points in the treatment of disease. In acute fevers by appropriate feeding the resistance of the system to micro-organisms might be increased. Diet might help to eliminate toxins from the body and by strengthening the heart might aid in producing diuresis. Food sufficient to produce from 2500 to 2700 calories was often necessary in fever. As regarded the advisability of giving solid food in fevers Professor Dreschfeld thought that milk and carbohydrates were usually sufficient, but occasionally raw scraped beef, somatose, or eucasin might be given with the milk. Too much milk might increase the diarrhœa in typhoid fever, and in pneumonia the excess of fluid might lead to weakening of the heart. Alcohol prevented the burning up of the tissues and might be given in small quantities in fevers. Sugar seemed to revive and strengthen the tired heart muscle and might be a useful food in acute fevers. Chronic fevers, such as phthisis, required over-feeding. Fat should be given in some form in sufficient quantity. Professor Dreschfeld then referred to the differing theories as to the causation of gout and to the effect of these theories in the dietetic treatment. Diabetes in its milder forms might be entirely cured by appropriate diet. In this disease food equivalent to 2500 or 2800 calories was required to prevent wasting of the body from the excretion of sugar. Fatty food had been recommended by Van Noorden and alcohol might be given to help the digestion of the fat. Professor Dreschfeld then discussed the subject of diet in cases of granular kidney and diseases of the stomach and pointed out that of the numerous artificial foods at present in vogue those consisting chiefly of peptones were useless. The liquid preparations contained very little albumin, but some of the newer solid preparations contained a considerable amount. The emulsified fat preparations were frequently of service.—Professor Leech thought that in fevers milk was often given in quantities that were injurious; it was advisable to give some nitrogenous food as soon as possible.—Professor Dixon Mann thought that caution should be exercised in advising animal food in gout; the question of digestion was of great importance. In granular kidney he was not disposed to keep patients too closely to white meat. As regards artificial foods he did not believe in any of them; the liquid preparations were certainly useless.—Dr. Leslie Jones disagreed with Professor Mann as regards artificial foods. He had seen lives saved by some of these preparations, patients being able to take them when no other food could be retained.—Dr. Hopkinson, Dr. Goodfellow, and Dr. Wild also took part in the discussion.—The following is the list of officers for the session 1899–1900:—President: Professor Dreschfeld. Vice Presidents: Professor Dixon Mann and Dr. Wilkinson. Honorary treasurer: Dr. Williamson. Honorary secretary: Dr. Wild. Committee: Dr. A. Brown, Dr. F. J. H. Coutts, Dr. Kelynack, Dr Vipont Brown, Dr. Goodfellow, and Dr. J. E. Platt.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 26th, the President, Dr. Burgess, being in the chair.—Mr. Pye-Smith showed a case of Double Coxa Vara, with a skiagraph, in a boy aged three years. He was the youngest of seven children. There was evidence of rickets in him and in two of his brothers. He did not begin to walk until he was over two years old. He had a waddling gait and soon got tired. There were lordosis, slight eversion of the feet, great restriction of abduction, and some diminution of internal rotation. The great trochanters were an inch above Nélaton's line, the heads of the femora could not be felt, nor could the limbs be lengthened by traction. The diagnosis from morbus coxæ and from double displacement of the hips was pointed out.—Mr. Dale James showed an unusually fine example of Tattooing on the Chest and Forearms.—Dr. Arthur J. Hall showed (1) a case of Lichen Planus; and (2) Serpiginous Syphilide.—The President showed (1) a case of Addison's Disease; (2) a case of Hemiatrophy Resulting from Injury to the Skull in Infancy; and (3) a Tumour of the Pons.—Dr. Sinclair White read a paper on Aseptic Surgery. He stated that no one now doubted the germ origin of septic diseases, but that it was open to question whether in surgical practice the application of Lister's memorable discovery was as wide as it should be. The fault, if any, rested with our teachers who should insist that failure to resort to measures for securing aseptic healing of wounds was tantamount to gross professional negligence. Sterilisation should be the first and except in operations through septic tissues the only line of defence against septic micro-organisms. With efficient sterilisation the subsequent use of antiseptics was illogical and unnecessary. Heat in the form of boiling water or steam should be used for disinfecting instruments, ligatures, dressings, and towels. The skin after thorough cleansing with a nail-brush and soap-and-water should be disinfected by a five minutes' contact with a 1 in 500 solution of biniodide of mercury in methylated spirit. An aqueous solution of the same salt (1 in 1000) should be used for disinfecting wounds. Ligatures should be of silkworm gut, which in various sizes was applicable to all kinds of work. Vessels should be twisted rather than tied. Drainage was unnecessary and a source of danger in operations through healthy tissues. They did not drain the non-dependent lacerated wound filled with blood and bone-dust produced in performing osteotomy, yet logically if drainage was ever required in non-septic operations it should be resorted to here. Aseptic healing being a painless process deviation from this condition should excite suspicion of something having gone wrong. After operations the pulse and temperature should be carefully watched; a slight degree of fever during the first 48 hours was common and need not cause anxiety, but, generally speaking, if all were going on well the pulse and temperature should be normal on the evening of the third day and remain so afterwards.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at the Medical Institution, Hope-street, Liverpool, on Oct. 20th, the President, Dr. A. Donald, being in the chair.—Dr. Stuart Ross showed the specimen from a case of Retroflexion of the

Gravid Uterus which terminated fatally from uræmia. The patient was pregnant three and a half months and had retention of urine for one week. Six pints of very fœtid ammoniacal urine were drawn off and the uterus was replaced readily. The patient, however, became comatose and died 48 hours later from uræmia.—Dr. T. Grimsdale showed the specimen from a case of Uretero-vaginal Fistula following vaginal hysterectomy. As a result of this operation the patient had incontinence of urine and attacks of pain in the left lumbar region. A papilla could be seen in the vault of the vagina and along this a probe could be passed which led into an abscess cavity in the broad ligament and into this the upper end of the ureter opened. The left kidney was much enlarged and the seat of degenerative changes with pyelitis. The exact condition of the parts was only made out after an exploratory abdominal section and the introduction of a ureteral catheter. Whilst considering the question of a further curative operation the patient developed symptoms of uræmia and died.—Dr. H Briggs: Gynæcological specimens.—Dr. S. Buckley read the notes of a case of Tubal Abortion associated with a Parovarian Cyst on the Opposite Side. The tumours were successfully removed by abdominal section.—Dr. E. T. Davies related a case of Ovarian Tumour complicating Pregnancy and Labour. The patient had a difficult instrumental delivery followed by some pyrexia and signs of general peritonitis An ovarian tumour was diagnosed and abdominal section was performed a fortnight after delivery. The tumour had undergone torsion of the pedicle and was very adherent. The patient made a good recovery.—Dr. J. E. Gemmell related a case of Hydatid Tumour of the Omentum removed by Abdominal Section from a patient who had recently been delivered of a full-term child. The tumour was first discovered during labour when it occupied Douglas's pouch and caused obstruction. It was, however, readily pushed up by manipulation.—Remarks on these cases were made by Dr. S. Buckley, Dr. W. Walls, Dr. T. Grimsdale, and the President.—Dr. William Alexander read a note on the Correction of Uterine Displacement by Shortening the Round Ligaments in Cases Complicated by Adhesions. He pointed out that this operation was usually considered to be unsuitable for cases complicated by adhesions. In these cases he advised that posterior vaginal section should be performed and the fundus uteri liberated from its adhesions. The round ligaments could then be shortened in the usual way. He related three cases successfully treated in this manner.—Remarks were made by Dr. E. T. Davies, Dr. H. Briggs, and the President.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Oct. 26th at 20, Hanover-square, W., Dr. R. Fortescue Fox (Strathpeffer Spa) being in the chair.—The President, referring to the severe illness of the Chairman of Council, said that the society trusted that Dr. S. Hyde's valuable life would be spared and that he would soon be seen again at the meetings.—A vote of sympathy, which was seconded by Dr. Symes Thompson, was passed.—The President then introduced the President-Elect, Dr. J. Ivor Murray (Scarborough), who took the chair and then delivered an address, entitled "A Retrospect and Forecast." Dr. Murray began with a retrospective survey of the changes in medical practice during the 55 years of his professional career. Looking to the future he considered that the revival which had taken place in the value ascribed to the study of balneology and climatology, more especially in their own country, and to which their society might fairly claim to have contributed in no slight degree, was a matter for congratulation. Much was to be achieved by hygiene, baths, and mineral waters, and by the selection of the most suitable health resorts, and in the majority of cases this could be achieved as effectually in their own country as by exiling patients to foreign parts, and that with all the home comforts so imperfectly understood abroad, but which make all the difference to the invalid and to the chances of his recovery. The Fellows should bring before the notice of the society the advantages possessed by their own health resorts so that their brethren might become acquainted with the treasures which nature had so abundantly supplied in various parts of the kingdom and of which in many cases they were ignorant. It was only in that way that the prejudice which still existed in the minds of the great mass of their countrymen could be overcome. The attention which had recently been directed to the prevention of tuberculosis by rational out-of-door treatment was peculiarly the province of that society to study and encourage, and with prophylactics and means of treatment, of which balneology was not the least important, one might anticipate the time in the near future when human life, vastly extended, might be only limited by natural decay or accident.—Dr. Symes Thompson proposed, and Dr. H. McClure of Cromer seconded, a vote of thanks to the President for his address.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—An ordinary meeting of this society was held on Oct. 25th, the President, Dr. Radcliffe Crocker, being in the chair.—The following cases were exhibited:—Dr. P. S. Abraham: (1) Generalised Sclerodermia in a middle-aged man; (2) a case of Granuloma Fungoides in a man; some of the tumours had ulcerated, some had not; and (3) a woman with (?) a Patch of Lichen Planus.—Mr. Arthur Shillitoe: A case of Purpura Rheumatica (Erythema Purpuricum).—Mr. T. J. Hitchins: (1) An Affection of the Nails in a Child; (2) a male child with (?) Dermatitis Herpetiformis; and (3) a case of Leprosy in a Boy.—Dr. T. D. Savill: (1) A case for Diagnosis; and (2) a case of Raynaud's Disease.—Dr. P. S. Abraham read a note on an Unusual Case of Molluscum Contagiosum.—The Treatment of Leprosy was discussed by the President and by Dr. P. S. Abraham, particularly with regard to intra-muscular mercurial injections. The President said that intermittent injections of sozoiodolate of mercury were less painful than were the perchloride injections. He remarked that he believed that there were only two recorded cases of recovery from mycosis fungoides. A purgative treatment seemed to be answerable for the recovery in one of these instances.—Others who joined in the discussion included Mr. G. Pernet, Dr. T. D. Savill, Mr. Campbell Williams, and Mr. T. J. Hitchins.

Reviews and Notices of Books.

The Soluble Ferments and Fermentation By J. REYNOLDS GREEN, D Sc., F.R.S., Trinity College, Cambridge. Cambridge University Press. 1899. Price 12*s*.

WE cordially welcome this work since the literature relating to the various problems connected with the phenomena of fermentation is widely scattered, and the fact that so much advance has been made towards arriving at a better knowledge of fermentation during the past ten years—a knowledge contributed by a great number of investigators in different countries—has made a work of review of these advances a *sine quâ non*. Moreover, there was no one better qualified to undertake this task than Professor Green. Some idea of the enormous progress that has been made in regard to our knowledge of the fermentative processes may be gathered from a comparative study of the present volume and what was previously the only standard volume on the subject in the English language (which was a translation from the German)—namely, "Schützenberger's Fermentation." Since the day when Schützenberger's excellent work was translated into the English language the whole aspect of the nature of fermentation has changed, and it is this new aspect with which Professor Green's book deals. No greater impetus has been given to our knowledge of the processes concerned in fermentation than by the announcement made by Büchner two years ago that he had succeeded in setting up alcoholic fermentation by means of an enzyme, which he calls zymase, apart altogether from the yeast cell. The tendency of modern investigation, therefore, is to formulate that the work of fermentation is directly the result of the peculiar and wonderful action of enzyme. As Professor Green points out, the number of cases in which the direct rather than the indirect intervention of protoplasm appears to be involved is continually growing smaller as further work upon metabolism proceeds. All recent research points to the work of fermentative change being brought about by the direct action

of the secretion of the cell, the enzyme. Fermentation therefore needs a new definition and ultimately it may come to be defined as the decomposition of complex organic material into substances of simpler composition by the agency of a secretion produced in the cell of the protoplasm. Again, as Professor Green points out in his preface, recent discoveries have shown more and more plainly what a prominent part is played by enzymes in intra-cellular metabolism, till it has become clear that the distinction drawn between organised and unorganised ferments is based upon an incomplete acquaintance with the metabolic processes in both higher and lower organisms, and must now be abandoned entirely in the light of fuller knowledge. The discovery of zymase, he adds, causes the disappearance of almost the last resting-place of the distinction. The questions remain, What is an enzyme? and why is it endowed with that very remarkable and powerful function of breaking up complex molecules into simpler ones and of carrying on this action apparently *ad infinitum* so long as its product is removed? Invertase, for example, will induce the inversion of 100,000 times its own weight of cane sugar. It may be that the action is akin to that of the hæmoglobin of the blood which serves as a carrier of oxygen to the tissues of the body. When deprived of its oxygen it returns again for an air supply to the lungs, and the loose compound oxy-hæmoglobin then formed courses through the system to give up its loosely combined oxygen and returns again thus denuded, and so on. The action is parallel, too, in the case of nitric oxide serving as a carrier of the oxygen of the air to sulphurous acid in the production of sulphuric acid. It is alternately reduced and oxidised from nitrogen peroxide to nitric oxide and from nitric oxide to nitrogen peroxide. It may be assumed that the behaviour of enzymes is similar and accordingly may be regarded as a chemical action apart altogether from biological issues. On this view Professor Green says we may suppose the enzyme to attach itself to the body on which it acts with or without the elimination or addition of water. The new compound meeting with a further molecule of the same body will then be decomposed with the formation of the body found to result from the action of the enzyme, the latter being again liberated unchanged or perhaps re-formed. Investigation has shown that something of this kind takes place in gastric digestion. It is certain that pepsin is inactive unless present in a weak hydrochloric acid solution, and it has been ascertained that the chlorine of the hydrochloric acid enters into combination with the albuminoid substances and even with a peptone, the acid thus acting possibly as an intermediary between the pepsin and the proteid. Further, the remarkable researches of Mr. Croft Hill tend to show in the case at any rate of the enzyme glucase that the action is a chemical one and that the transformations which it effects do not differ in any essential feature from ordinary chemical changes.

The whole subject of fermentation is of such intense interest as to tempt us, did space permit, to discuss many other interesting points of the subject, but those who would be in possession of all the facts, the trend of which is to place fermentation upon a new basis, will consult Professor Green's work with advantage and instruction. It is very clearly written and constitutes an excellent history of the subject up to the present time. It is interesting in giving evidence of the fast-vanishing idea that fermentation is a change directly due to vital agencies. An excellent bibliography is appended to the chapters and, further, there is an index for which Professor Green is not responsible. It was added, however, in order that the work might conform with the general scheme of the Cambridge Natural Science Manuals. We cannot congratulate those who were responsible for compiling this index. It is distinctly defective and affords very little help to finding the subject matters in the text. The Synopsis of Contents is a far better guide.

Clinical Lectures on Neurasthenia. By THOMAS D. SAVILL, M.D. Lond., Physician to the West End Hospital for Diseases of the Nervous System. London: Henry J. Glaisher. 1899. Pp. 130. Price 5*s.* net.

THE clinical material coming under observation in the London workhouse infirmaries is enormous, and it is much to be regretted that little has been done at present to make it available for clinical teaching. Several energetic superintendents on their own initiative have done their best to make use of the materials at their disposal, but any concerted action is still wanting. Dr. Savill, when medical superintendent of the Paddington Infirmary, gave a course of lectures to graduates and the first lecture in this volume was given as part of that course, the rest being given at the West End Hospital for Nervous Diseases. They deal very exhaustively with the subject of Neurasthenia and will be read with great interest. Dr. Savill is happy in his clinical descriptions and goes very fully into the details of treatment for the relief of the numerous symptoms of which the patients complain. The book would be more pleasant to read if in preparing it for the press the conversational style had been modified, as the frequent iteration of "gentlemen," "you will observe," &c., becomes tiresome. There is also a good deal of repetition in the different lectures. There is an excellent bibliography and a full index is supplied.

The Wasting Diseases of Infants and Children. By EUSTACE SMITH, M.D., F.R.C.P. Lond., Senior Physician to the East London Children's Hospital. Sixth edition. London: J. & A. Churchill. 1899. Pp. 375. Price 6*s.*

DR. EUSTACE SMITH'S book is so well known that the sixth edition requires no introduction. The fifth edition has long been out of print and this, containing the riper views of the author, will receive a warm welcome. The aim of the first edition was "to set forth in a handy and readable shape the principal forms which chronic interference with nutrition may take, not only in bottle-fed infants, but also in older children up to the age of puberty; to describe these ailments from a clinical standpoint, and to set out with much minuteness the methods by which they might be remedied and health restored." This object has been more fully attained in the present edition, which has been largely re-written in order to accommodate the language employed to modern pathological conceptions and to give in full detail fresh methods of treatment. The importance of disorders of nutrition in the early years of life even at the present day are shown by the mortality figures given by the Registrar-General. The excellent handbooks by Dr. Cheadle and Dr. Cautley have done much to educate the profession in the feeding of infants and to diminish this mortality. But Dr. Eustace Smith's work has a wider scope, including the disorders of nutrition of older children and is a most complete and trustworthy guide. It deals first of all with infantile atrophy, and under the head of treatment in this chapter gives an admirable account of the principles of feeding infants in health and disease. Dr. Eustace Smith prefaces his directions with this injunction which is too often disregarded by selfish mothers: "The child ought, if possible, to be suckled by his mother; and every mother ought to make an effort to perform this duty." The fullest details are, however, given as to the ways in which cow's milk may be modified to make it suitable for infants when it is impossible for the child to be suckled. Dr. Eustace Smith refers to condensed and desiccated preparations of milk, and while admitting that as a temporary

food they are often well borne gives emphatic warning that "a tinned food, however digestible it may be, is no efficient substitute for the fresh milk of the cow. Children who are fed too long upon such foods often become rickety and sometimes develop signs of scurvy. In no case should an infant be allowed to depend for nourishment upon preserved milk longer than is absolutely necessary. As soon as possible this food must be replaced by fresh cow's milk diluted with barley water." While condemning these artificial foods as a regular diet Dr. Eustace Smith gives a clear account of the conditions in which they may be of temporary service, and the numerous expedients suggested for varying the diet of an infant when milk disagrees will be a boon to the general practitioner.

The wasting diseases which come under the scope of the book are infantile atrophy, chronic vomiting, chronic diarrhœa, rickets, congenital syphilis, mucous disease, and tuberculosis. The symptomatology, diagnosis, and treatment of these diseases are described in a way that is unsurpassed. The book being written from a purely clinical standpoint has always occupied a high position among English works on medicine. The present edition will greatly increase Dr. Eustace Smith's reputation as a physician and a teacher, and will long be read and referred to as one of the clinical classics of the nineteenth century.

LIBRARY TABLE.

Transactions of the Epidemiological Society of London. New Series. Vol. XVIII. Session 1898-99. London: Shaw and Sons. Pp. 194. Price 6*s*.—Since its foundation as far back as 1850, this society has issued a large number of annual volumes all of which contain papers of considerable value to the epidemiologist. Unfortunately, however, there has as yet been published no general index to the Transactions, and hence a seeker after a given paper on any subject is often put to the almost endless trouble of wading through the several separate volumes in order to attain his object. We believe that this omission in the literature of the society is to be shortly remedied, and there can be no doubt that the appearance of a well-arranged index would be very acceptable, not only to the members of the society, but to all those who are from time to time called upon to search through the Transactions. The volume which has just reached us is fully up to the high standard yearly attained, and although owing to the interest of the papers, we have noticed each one of them at some length in our columns at the time of their being read before the society, our readers will doubtless be glad to have the contents of the present volume briefly indicated. Dr. Franklin Parsons's Presidential Address on "Half a Century of Sanitary Progress, and its Results" affords a capital summary of what sanitary science and administration have achieved since the passing of the first general Public Health Act in 1848, and the several charts and tables which accompany it will be useful for reference. Dr. Arthur Ransome furnishes a very readable paper on the Prospect of Abolishing Tuberculosis, while Dr. Bruce Low's communication upon Epidemic Cerebro-spinal Meningitis is a valuable paper covering much ground and affording useful information as to the geographical distribution of this interesting but somewhat obscure disease. Dr. Boobbyer's record of a Decade of Enteric Fever in Nottingham presents a telling argument for the purification of polluted soil, the abolition of conservancy methods of excrement disposal, and the isolation in hospital of enteric fever cases. Of Blackwater Fever we have heard much of late in connexion with Koch's views as to the relations of quinine to that condition, and for this reason, as also for the well-nigh endless table of bibliography which is appended to it, Mr. W. H. Crosse's paper will prove acceptable in many parts of the world. Dr. F. R Blaxall discusses with commendable impartiality the Relations of Bacteriology to Epidemiology, and Dr. R. H. Saltet, Professor of Hygiene in the University of Amsterdam and secretary of the Epidemiological Society of London for Holland and Belgium, contributes a Study of Enteric Fever in the Netherlands during the Period 1875-1894. This paper is a type of what we should like to see contributed in larger number to the Transactions and we venture to hope that the society will continue to encourage its foreign secretaries to read communications at its meetings or to furnish papers for its Transactions dealing with the behaviour of infectious diseases in different parts of the world.

Physics and Chemistry, adapted to the requirements of the First Examination of the Conjoint Examination Board of the Royal Colleges of Physicians and Surgeons, and also for General Use. By HERBERT E. CORBIN, B Sc Lond., and ARCHIBALD M. STEWART, B.Sc. Lond. London: J. & A. Churchill. 1899. Price 6*s*. 6*d*.—Every year many books, all more or less suitable for the purpose, are added to the already numerous class dealing with chemistry for the use of medical students. The chief objection to the majority of these treatises, however, lies in the fact that it is necessary to purchase two or three before the information required for the ordinary medical examinations can be obtained. As the syllabus for the Conjoint Board comprises a certain amount of physics as well as inorganic and organic chemistry a text-book on elementary physics is also usually needed. The endeavour of the authors has been to supply in one volume the theoretical work in both chemistry and physics required for this examination. They have to a great extent succeeded, although, unfortunately, the book appears to have been too hurriedly produced. As proof of this we may mention the very inadequate description of the induction coil given on pp. 127 and 128 and the anything but satisfactory account of the evidence in support of the theory in regard to the molecular weight of hydrogen. The reader may also very easily be misled by the paragraph on p. 378 dealing with starch, where it is distinctly implied that the granules obtained from different plants all possess the same characteristic appearance. However, apart from these blemishes this work, on account of its good diagrams and the fact that it provides both chemistry and physics, should prove of considerable assistance to the student as a text-book when used in conjunction with a systematic course of lectures.

A Short History of the Progress of Scientific Chemistry in Our Own Times. By WILLIAM A. TILDEN, D.Sc., F.R.S. London: Longmans, Green, and Co. 1899. Pp. 276. Price 5*s*.—In Professor Tilden's own words the object of this charming little work is to afford a historical survey of the succession of events which has led up to the system of theory in chemistry accepted at the present day. The work is, in fact, a retrospect of a period of 60 years, identical with the period of the Queen's reign up to Jubilee year, and is planned upon a course of lectures given to working men at the Royal School of Mines a few months after the Jubilee celebrations. The book from beginning to end is an example of the eloquence of simplicity, and Professor Tilden in the opening chapter at once attracts the interest of that reader who would expand his scientific knowledge and who desires to have the facts concerned put in proper sequence before him so that he may grasp the principles underlying chemical science. Further, he should get a clear conception of the bearing of chemistry upon many branches of the arts and industries. Professor Tilden possesses the somewhat rare faculty of presenting the mathematical side of the science in a lucid, convincing fashion. He has even found room to descant

upon the theory of solutions, electrolytic phenomena, and has added a similarly clear account of stereo-chemistry and of constitutional formulæ in space. We have not read a more intelligible statement of the position of these subjects up to the present time. At the end of the book the chief important events in the history of chemistry are added in chronological order. It is just a book of this kind which we should hope to see in great demand as an evidence of the people's desire for increased knowledge, and they may depend upon it for a clear understanding of the subject with which it deals.

A Medical Handbook for the Use of Practitioners and Students. By R. S. AITCHINSON, M.D., F.R.C.P. Edin. Third edition. With Numerous Illustrations. London: Charles Griffin and Co., Limited. 1899. Pp. 350. Price 8*s.* 6*d.*—This work is intended to give in a condensed form the information usually contained in ordinary text-books on medicine. This condensation has been ruthless in regard to etiology and pathology, but the account of the diagnosis and treatment of the various forms of disease receives more adequate consideration. The sections on the investigation of the respiratory, circulatory, and other systems are remarkably well done. The information in the book is accurate and clearly expressed and its compact size makes it convenient for ready reference by those who wish to refresh their memories about the chief points on some subject in medicine and who have not time to read the fuller treatises.

A Course of Elementary Practical Physiology and Histology. By M. FOSTER and J. N. LANGLEY. Seventh edition, edited by J. N. LANGLEY, F.R.S., and L. E. SHORE, M.D. Cantab. London: Macmillan and Co., Limited. 1899. Pp. 406. Price 7*s.* 6*d.*—We have on several occasions called attention to this manual of practical physiology and histology and recommended it to the student as one of the best of the numerous works on the subject that have appeared in this country. The names on the title-page, the fact that it is almost exclusively used in the Physiological School of Cambridge, and the numerous editions that have been exhausted constitute additional evidence of its value. The work appears to have undergone thorough revision by the authors and some considerable additions have been made in the sections dealing with Physiological Chemistry and with the Physiology of Muscle and Nerve by Dr. Shore, whilst the sections on Physiological Chemistry have been revised by Dr. Gowland Hopkins and those on the Special Senses by Dr. W. Rivers. The authors gratefully acknowledge the assistance which they have had from Miss Greenwood (now Mrs. Bidder) in the histological part. The student must not expect full details of the structure of the various organs, but in showing how they can be prepared and examined by appropriate methods most of the salient points are mentioned.

The Sunday at Home still maintains its popularity and the current issue, the first of a new volume, will strengthen its reputation as a healthy magazine for Sunday reading in the Christian household.

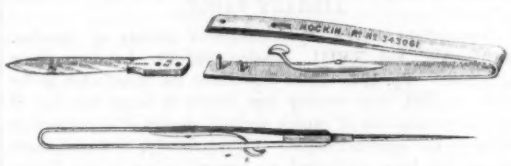
The Leisure Hour begins a fresh volume this month in a new form. The size of the page has been reduced, but the amount of literary matter has not been curtailed, and its quality is quite up to the usual standard of excellence. In fiction Sir Walter Besant's serial story, entitled "The Alabaster Box," of course takes the first place, while there are many papers which make interesting and profitable reading. Mr. W. J. Gordon writes on "Woolwich Arsenal," and Mr. W. B. Northrop shows us what London is like as viewed from the Monument.

The Girl's Own Paper also begins a new volume this month and is a promising instalment of the forthcoming volume. Besides the serials and short stories there are papers of interest to girls such as Woman's Work in Sanitation and Hygiene, Pharmacy for Girls, Invalid Cookery, and Cookery Receipts. The Bread Winner at Home discusses the home employment of women and Free Wheels deals with a topical subject with regard to cycling.

New Inventions.

IMPROVED UNIVERSAL HANDLE.

THE following description of an improved Universal Handle, which has been made to my design, may prove interesting to readers of THE LANCET. As the illustration shows, the instrument is fashioned on the model of Liston's artery forceps, but having broad, flat, non-serrated blades, fitted with two parallel steel pins which, traversing two corresponding holes in the tang of the knife, serve to keep it steady. The blades of the handle are made to grip the knife laterally and the whole is firmly clamped in position by the steel spring, forming a knife similar in appearance to, and as rigid as, a metal-handled scalpel. But by pressing the spring catch the blade can instantly be released from the handle and another substituted with ease and celerity. The prime object of all universal handles is no doubt portability, but the majority have the distinct disadvantage of being troublesome to manipulate and occupy an appreciable time in adjustment. In the instrument under consideration these defects have been



entirely obviated. One blade can be substituted for another almost instantaneously and with the utmost ease, the rigidity of the instrument being preserved. Originally designed for use in pocket cases, the instrument should prove useful wherever portability combined with efficiency is a matter of moment, for a single handle and a selection of blades can be carried in less than half the space occupied by as many ordinary knives and will prove equally efficient. But the handle, it will be observed, is not only applicable to knives. It can be adapted with advantage to other instruments, such as blunt hooks, aneurysm needles, &c. Thus a set of two or more handles with a varied selection of knives and other instruments, the whole of which can be stored in a very limited space, will enable the surgeon to cope with any ordinary contingency, a matter of no small importance in operating in private.

The instrument, although made entirely of steel, is not unduly heavy, is simple in construction, and is easily sterilisable. When held in the usual position for making a skin incision the handle sits easily in the hand, the knob of the spring forming a useful support for the thumb. When held in the dissecting position it can be used with equal facility. In my hands, when put to a practical test under a variety of circumstances, it has proved itself of distinct utility.

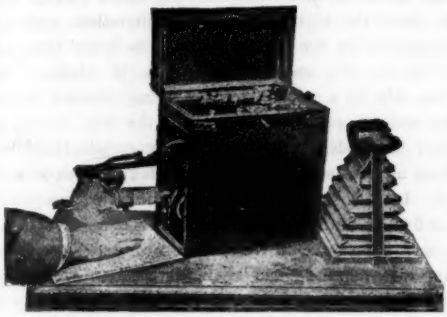
The makers, who have spared no pains to perfect the instrument and have placed it on the market at a very moderate price, are Messrs. Hockin, Wilson, and Co., New Inn-yard, 186A, Tottenham Court-road, London, W.

E. HARDING FREELAND, F.R.C.S. Eng.
Beaumont-street, W.

A PORTABLE X RAY APPARATUS.

WE have recently had brought to our notice a portable x ray set which should be extremely useful for field or service work. It consists, as shown in the accompanying illustration, of a polished oak case containing an eight-inch spark coil, a Crookes's tube, and a collapsible fluoroscope. The battery or accumulator is supplied separately. We have had the opportunity of testing this compact apparatus and find that it gives very satisfactory results. The apparatus is quite easy to manage and gives well-defined

shadows of the bones in the hand and forearm. The size of the case is as follows: height 13 inches, length 12 inches, and width 7 inches. It weighs complete 27 pounds. The space is very ingeniously utilised, the whole set comprising a complete x ray outfit which should be very suitable for open-air work. It enables also



an x ray diagnosis to be made under conditions of efficiency at the home of the patient. The coil is of excellent workmanship and gives in air an eight-inch spark. The discharge is quite steady, so that definition is secured. This outfit is made by Messrs. Parsons and Eachus, electrical engineers, of 52, Queen Victoria-street, E.C.

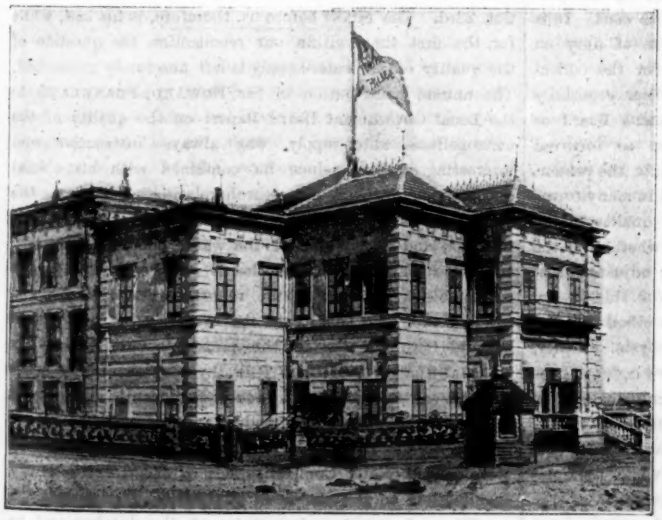
HEALTH RESORTS IN EGYPT.

INVALIDS proceeding to Egypt for the first time will find it to be greatly to their advantage to have sound advice beforehand as to where they should stay and what precautions are necessary for the care of their health. From inattention to these things a journey which was full of promise for a patient has in too many cases served only to aggravate the symptoms. The excitement of travel, the bewildering effect of novel surroundings, the rapid change of climate, and many other influences tend to make the invalid forget the primary object for which he left home and inadvertently to run unwarrantable risks. Inexperienced travellers in search of health require to be taken by the hand and to have things made smooth for them as much as possible, a task which is conscientiously performed by Dr. Arthur Bentley in his "Maintenance of Health in Egypt."[1] In this little book of 76 pages visitors to Egypt will find copious information on almost every subject relating to the care of their health written by an author of much experience in tropical climates who has been for several years resident in Egypt. One way of making the journey is by steamer direct from an English port to Alexandria, Port Said, or Ismailia, but for debilitated travellers Dr. Bentley recommends the short sea route, travelling by railway to either Marseilles or Brindisi and meeting the steamer there. The chief residential localities for invalids are Cairo itself; Helouan and Mena House, both near Cairo; Luxor, on the Nile, 450 miles above Cairo; and Assouan, also on the Nile, 585 miles above Cairo. Referring to these different places Sir Hermann Weber said at the recent Tuberculosis Congress at Berlin that Helouan with its well-known baths, which can be reached by a short railway journey from Cairo, is probably at present the best place, because it lies quite in the desert and can be used during the longest period, from the middle of November to the middle of April. At that time, he said, there were no sanatoria anywhere, but since the delivery of Sir Hermann Weber's address the Tewfik Palace Hotel at Helouan has been re-opened as a sanatorium. The proprietors are the Desert Hotels Company, Dr. Bentley has been appointed medical director, and nursing and massage are undertaken under the direction of a lady superintendent. The building, which is expected to be ready for occupation in November, was one of the residences of the late Khedive, Tewfik Pasha, and an entirely new wing of three storeys with a winter garden on the roof has been constructed. Fig. 1 shows the hotel and Fig. 2 a detached building in a garden. Helouan is on the east bank of the Nile, three miles from the river at the foot of the Mokattam Hills. It stands between 140 feet and 150 feet above the valley of the Nile and is situated about 15 miles in a southerly direction from Cairo, from which it is reached by train within half an hour. The average mean temperature for the winter months is 60·5° F. and the rainfall rarely exceeds three-quarters of an inch for the same period. The climatic conditions are therefore well suited for the treatment of tuberculosis and of many other diseases. It should be added that medical men can take full advantage of the hotel and treat their patients there themselves.

FIG. 2.

The selamlik or garden pavilion.

FIG. 1.



The sanatorium.

[1] London: Simpkin, Marshall, and Co.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 4, 1899.

THE annual reports of the Local Government Board, the twenty-eighth of which has just been published, have perhaps afforded the best indication of the working of the Food and Drugs Act, 1875. As a general rule the returns have shown a steady decline in the percentage amount of adulterated samples until in the past official year it was reduced to as low as 8·7 per cent., which is the lowest figure ever recorded and less than one half of the rate for the years 1877 and 1878. Obviously these reports have from time to time been instructive in pointing out the defects of the Act and in inspiring suggestions as to how these defects could be removed. As is well known, the inefficient administration of the Sale of Food and Drugs Act has been the subject of Parliamentary inquiry during the last three years and at length a Bill was passed in the last session of Parliament which will become operative on Jan. 1st, 1900. We may anticipate, therefore, that some, at any rate, of the stereotyped criticisms of the Local Government Board on the administration of the Act will disappear with the present report. Thus it is constantly being stated that the degree in which the Acts are utilised is by no means uniform in different districts, and this is again true in regard to the past official year. Indeed, in 26 districts the authorities charged with the administration of the Act have almost entirely failed to exercise their powers and their action has afforded little or no check upon adulteration. On the other hand, where the Act was fairly efficiently carried out the proportion of adulterated samples found in each district was under 5 per cent., while taking the districts collectively the percentage of adulteration diminished to 3·6 per cent. It is hoped in the new Act to correct this failure of duty on the part of local authorities by providing for the collection of samples in such a case by an officer especially appointed to do so by the Local Government Board or by the Board of Agriculture. All expense so incurred is to be borne by the local authority. Again, in the present report it is stated that the fact remains that in many towns there is room for great improvement in the quality of the milk-supply. It will be interesting to see whether by the provisions of the new Act in regard to the adjustment of standards this reproach will be removed, for this is undoubtedly largely due to differences in the methods of pronouncement and procedure adopted by the analysts. Further, the new Act contains a much more satisfactory code of fines and countenances the infliction of heavier penalties in gross cases. We still think that the system of collection of samples needs to be made more efficient. It is true, of course, in those instances where samples are purchased by private individuals that such a step is commonly taken as the result of a suspicion being entertained, and accordingly in the case of butter no less than two-thirds of the samples so secured proved to be adulterated. Again, no less than 55 per cent. of the samples of butter which were submitted for analysis by the agents of the Royal Lancashire Agricultural Society and the Butter Association were condemned. Drugs and spirits show the highest rate of adulteration, although the proportion in the case of spirits is lower than last year, but in the case of drugs it is higher. We attribute this to a greater activity being directed to the articles coming under this section of the Act. As an instance of the inadvisability of regarding certain fraudulent practices as obsolete the figures relating to tea may be quoted. In 1897 the proportion of adulterated samples of tea was 0·2 per cent., while this year it has reached 3·1 per cent., and this is due to the addition of stones and sand. The ingenuity of the fraud was admirable since caper tea was chosen for the purpose, the leaf of which curls up to form a wrapper for, and thus to conceal, the stones. In spite of the admitted deficiencies of the Sale of Food and Drugs Act, 1875, it must be conceded that, on the whole, it has done the community excellent service. The rate of adulteration has been greatly reduced and doubtless will be still further reduced as legislation is made more efficient by the provisions of the new Act. All the same, so subtle are the methods of adulteration in vogue at the present time that a sharp look-out must still be maintained, for, strange as it may appear, the ingenuity of adulteration increases *pari passu* with the advance of knowledge.

It is a somewhat singular, as it is a melancholy, circumstance that within a few months the Local Government Board should have been deprived of the services of two of their experts on whom they relied for the annual pronouncements respectively on the efficiency of the administration of the metropolitan water-supply and on its quality for potable purposes. Sir EDWARD FRANKLAND died this year on August 9th, and Major-General A. DE COURCY SCOTT, R.E., who was appointed the official water examiner in 1887, died so recently as Oct. 23rd. The report before us, therefore, is his last, while for the first time within our recollection the question of the quality of the water-supply is left absolutely untouched. The annual contribution of Sir EDWARD FRANKLAND to the Local Government Board Report on the quality of the metropolitan water-supply was always instructive and interesting reading, since he combined with his official duties the undertaking of research relating especially to the bacteriology of water and the conditions under which efficient filtration and purification of the water could be effected. It seems strange that no mention is made of either of these regrettable occurrences in the report. Indeed, under the heading of "The Quality of the Water" the late Major-General SCOTT wrote in the present report that "Sir E. FRANKLAND, K.C.B., F.R.S., by request of the Local Government Board, carries out the monthly analysis of the water supplied to London, and furnishes reports thereon to the Board, and at the request of the Associated Metropolitan Water Companies has extended his monthly examinations to the chemical, physical, and bacterioscopic condition of the raw river water at the intakes and to

the bacteriology of the water as it issues from the filters and before it is pumped into the distributing mains." At least three-fourths of the late Major-General SCOTT'S report is identical with what he has published on previous occasions. He was undoubtedly, however, more critical in his remarks than formerly. He pointed out, for instance, that the extraordinary and unprecedented reduction in the volume of flow of the river Lee is a matter for serious consideration. It seems to have been the fact, he added, that during the month of September, 1898, the average daily flow of the Lee was 3 3 million gallons less than the total statutory quantity allowed to be drawn by the Navigation and the New River Company collectively, leaving nothing whatever of the volume of flow of the river for the use of the district of the East London Company. He reported that under these circumstances the East London Company received aid directly from the New River Company, the Southwark and Vauxhall Company, and the Kent Company. The New River Company allowed water which it was entitled to abstract to pass down the Lee, the Southwark and Vauxhall Company pumped water under the Thames through the Tower Subway into the riverside district of the East London Company, and the Kent Company passed water into the East London Limehouse district through the Blackwall Tunnel by permission of the London County Council. Lastly, the Grand Junction Company and the West Middlesex Company supplied water to the New River Company which was thus enabled to increase its supply to East London. We believe these arrangements were largely resorted to again during the remarkable drought of the present year, but Major-General SCOTT remarked that though the inter-connexion of the mains of the several companies has been effected to some extent it has not been done so fully as is desirable. We still await the report of the Royal Commission on the Metropolitan Water-Supply which was presided over by Lord LLANDAFF. There must surely be cogent reasons for this delay since it is without precedent in the history of Royal Commissions. The death of Mr. H. W. CRIPPS, Q.C., and of Major-General SCOTT, we may add, removes two of its members.

THE unequal contest with disease that is waged by medical men in the remote parts of Scotland has been recently illustrated in a way which is not likely to be forgotten until some changes in the law are effected. For a Poor-law district with a population of 6000, scattered over an area which is more than 35 miles long and which is intersected by numerous branches of the sea and freshwater lochs and includes three islands, to be attended by only one medical officer implies wonderful trust on the part of the parish council in the *vis medicatrix naturæ* as well as in the inexhaustible strength and patience of the medical man. We do not propose now to deal again exhaustively with the personal details of the case of Mr. LAMONT of South Uist. We have not heard the last of these and a fitter opportunity may soon arise to dwell upon the manner in which he was treated and the nature of his vindication. Rather we would make his case an object-lesson and draw from it and similar tragedies some arguments for certain great reforms in the medical service of the Hebrides.

For this is not the first occasion on which we have had to dwell on the astounding defects in medical service in the islands of Scotland. We recall a still more tragic case where, in an island of the Hebridean group, the admirable medical officer was called to attend a female patient suffering from typhus fever, for whom he had to perform nearly all offices. He sent food to her from his own house and he had to put her into her coffin when she died. He then took the disease and died, leaving his widow and family to fight their own battle. Fortunately Mr. LAMONT has not had to crown his hard service as medical officer of the island of South Uist with the sacrifice of his life. But it is nevertheless difficult for men on the mainland of England, within easy reach of trained nurses and isolation hospitals, to realise all that he had to do in his official capacity, and yet it is highly necessary that we should do so with a view of rendering due sympathy to him and the many men in the Poor-law service of Scotland and also to the poor of these stern and wild islands, who are so imperfectly provided for in their sickness by a wealthy and a religious nation. According to the evidence Mr. LAMONT'S patient from the beginning of her illness on August 8th until her burial on the 25th was left absolutely alone but for her medical attendant. Relatives and neighbours did not visit her while she lived or assist to bury her when she died. There was no one but the medical man to give her even a cup of cold water, and this one representative of human kindness and Christian charity had to attend to all the sick over an area measured by tens of miles. There was no local nurse to be obtained and the officials to whom Mr. LAMONT informally reported the case failed to get one from the mainland or in any way to mitigate the misery of a poor woman through an illness of weeks' duration, culminating in solitary death. And this in a land covered with churches!

Such a story is a national scandal, and its occurrence—not, as we have seen, for the first time—imposes on outsiders the duty of honest criticism. The best form our criticism can take is to indicate the obvious lessons of the case. The first is the unsatisfactory position of the medical officer in certain districts of Scotland and his dependence on local officials who are apt to be prejudiced. The medical man is called on to do well-nigh impossible duties and when he has done them in a way that puts to shame every superior official he may be abused as an unworthy "servant" and on one plea or another be dismissed without appeal. This is an intolerable position for one with the duties and responsibilities of a medical officer, and without delay it must be rectified. It has been remedied in England and Ireland and there is no excuse for further delaying its rectification in Scotland. The anomaly is the greater seeing that the Poor-law inspector in Scotland—the counterpart of the English relieving officer—acts under the protection of the Local Government Board and can only be dismissed with its sanction. The medical officer, who deals with life-and-death issues, is at the mercy of any clique of sectarian or prejudiced members of the parish council. We cannot believe that such a state of the law will long continue. The second lesson is the insufficiency in the numbers of medical men to supply the wants of the islands, and doubtless of much of the Highlands, of Scotland, and the inadequacy

of the means at their disposal for dealing with disease, especially in its infectious forms. Proof of this defect is to be found in the annual reports of the medical officers of health. Dr. OGILVIE GRANT, the medical officer of health of the county of Inverness, in which South Uist is included, has recently spoken strongly on this subject. In some parishes half the deaths are, he says, uncertified by a medical man. In one (Benbecula), out of 26 deaths 20 were uncertified. Taking the deaths of the whole county for seven years he found that 2272 people during these few years had gone to their graves without any medical man attending them. It requires little imagination to conceive what an amount of preventable suffering—to say nothing of loss of life—such figures imply. Dr. BRUCE, as the medical officer of Ross-shire, tells the same story. In the western district (Gairloch) of his county 31 out of 59 deaths were uncertified. Even where the services of a medical man can be obtained it is often a hopeless task to wrestle with disease in the houses of the people on account of their intensely insanitary condition. In few parishes is there an isolation hospital, and a trained nurse is equally scarce.

We need not labour to prove the interest which the whole Scottish population has in removing such blots on her social and sanitary systems. Some of these Hebridean islands are the home of typhus fever; Lewis, for example, is one of the sources from which the typhus fever epidemics of Glasgow and other cities are constantly supplied. Scotland is a Christian country. She carries religious conscientiousness to such lengths that remote parishes may have three churches practically identical in doctrine and in worship, or with differences that an outsider cannot understand. Yet she has hundreds of parishes without an isolation hospital, parishes for which she provides no medical man and no nurse, and where even the religious sentiments of the people will not lead them to risk the giving of a cup of water to a fever patient. The leaders of the churches, stickling for orthodoxy in scholastic theology, must bear the chief blame of this unintelligent and inhuman condition of things. But the State is terribly at fault. Scotland is no longer a poor nation. Her industry is a factor in the economy of the world and in its civilisation. Her sons and daughters are spread over the empire and fill its highest posts. And yet religious and successful Scotland leaves the poor of the Hebrides to contend with disease, expects medical men to do the work of hospitals and undertakers, and is content with a system of State medicine which allows women in the hour of their maternity to die for want of medical men and trained nurses. It takes much orthodoxy in theology to compensate for such lapses from Christian principle.

IT is not encouraging to find that old abuses are reproduced in a new world, and this, too, not in a modified but in an exaggerated form. In Australia, Tasmania, and New Zealand the abuse of public charities is as prevalent as in England. The principal difference is that in certain phases there is even greater ground of complaint in the colonies than in England. Mr. L. BRUCK, medical publisher, of Sydney, has just issued a pamphlet on this subject which is teeming with facts and figures of a most startling and convincing character. First we are impressed with the anarchic system of distribution of hospital relief. There is a total absence of government, of coördination of basic principle—in fact, just what we see in England, where on one side there is too much and on the other too little accommodation. Thus the average in Australasia is one hospital for every 12,299 persons, but in Western Australia there is one hospital for every 4100 persons and in Victoria one hospital for every 20,267 persons. In Tasmania there is one hospital for every 1884 square miles and in Western Australia one hospital for every 25,853 square miles. This is not due only to the variations in density of population, but hospitals have often been founded as inducements to medical men to settle in the district. Thus there are 16 hospitals in Queensland and 25 in New South Wales, where the average number of in-patients only amounts to 50 per annum. Government assistance is recklessly given for the establishment of hospitals where they are not wanted, and then these institutions, having little or no legitimate work to do, rob the private practitioners of their paying patients. The total number of beds available in the hospitals throughout Australasia is 11,200, but the average daily number of in-patients is only 7809. The cubic space per bed varies from 617 cubic feet at Wood's Point to 2500 cubic feet at St. Arnaud, which, again, shows the want of a general governing principle.

It is in respect of paying hospital patients that greater abuse seems to exist in Australasia than in England. In many instances impediments are placed in the way of patients who cannot pay, while those who can pay are admitted at once, but the money goes to the hospital, not to the medical attendant. Instances are given of hospitals where in answer to inquiry a patient was accepted. Then, when it was ascertained that the patient could not pay, he was sent away and told to go to the Hospital Admission Depôt for examination by the Government medical officer. If the latter certifies that it is a proper case then the hospital authorities may in some cases claim a money compensation from the Government for taking in the patient, but the patient may endanger his life by travelling backwards and forwards from one authority to the other. On the other hand, those who can pay are always admitted without inquiry as to whether they have the means to go to a private hospital or to be nursed at home. Many thousands of patients pay from £1 to £3 a week and never realise that they are obtaining the services of an unpaid medical man. These paying patients, by occupying the beds intended for the poor, rob the taxpayers who supply the Government grants made to these hospitals and they rob the medical attendants who give their services gratuitously. Thousands of deserving poor are turned away to make room for paying patients. At the Melbourne Hospital 91 such cases were refused admission in the space of only six weeks. The Prince Alfred Hospital, Sydney, is half empty because the authorities only care to receive paying patients. Some of these patients pay as much as six guineas a week, but their nursing is of so luxurious a character that there remains nothing out of this sum for the medical attendant. At St. Vincent's Hospital, Sydney, there is a rule that paying

patients in the surgical ward shall pay the operating surgeon's fees, and in the medical ward that one out of the four guineas charged per week shall go to the attending physician. But the patients rarely pay more than three guineas, and then the medical officer does not receive anything, nor has he the legal right to sue for services rendered in a public and subsidised institution. The worst hospitals in regard to abuse are those of the West Australian goldfields which are not under Government control. Here the provident club system has been introduced and the subscribers are attended in their houses or in camp The hospital surgeon or physician is paid a salary of £200 or £250 a year with "the right of private practice," but he soon finds that even mine managers, storekeepers, and bankers are subscribers to the provident branch of the hospital and are therefore entitled to his attendance without paying fees. Then the hospital surgeon is often expected to live in a "fast" hotel in company with "Johnnies, mashers, and champagne Charlies," for the hotel-keeper may be the leading spirit of the hospital committee of management. The state of affairs resulting is most scandalous, and medical men are warned not to accept "one of these degrading billets at any hospital which has a fund which entitles a subscriber to anything more than attendance as an in-patient, and is not strictly confined to wage-earners receiving not more than £4 a week."

The facts brought forward clearly indicate that a considerable portion of the money subscribed for charitable purposes is spent in the treatment of well-to-do patients. It is therefore urged that pay wards should be abolished in all subsidised hospitals, but that such wards might be attached to public hospitals on condition that they received no subsidy from the Government and were open to all medical practitioners, patients choosing their own medical attendant and paying him the ordinary fees. In a word, these wards should be self-supporting in every respect. With regard to the non-paying wards they should be reserved exclusively for the use of the poor. Actually the most crying abuses prevail; the rich crowd the poor out of the hospitals and the medical men find it more and more difficult to create a paying private practice. Such, briefly, are some of the complaints that reach us from Australia. It will be seen that the economic difficulties which beset the medical profession are not limited to one country or even to one continent. They are universal. Yet, and in spite of this obvious fact, there are still many medical men who think of little else than their own personal affairs, who imagine that things will right themselves of their own accord, and who fail to realise that it is only by united action that such abuses can be abolished.

UNIVERSITY OF CAMBRIDGE. — The following have been elected to Fellowships at St. John's College:—Mr. J. J. Lister, University Demonstrator in Comparative Anatomy, and Mr. A. C. Seward, F.R.S., University Lecturer in Botany. Dr. G. Sims Woodhead, Professor of Pathology, has been elected to a Fellowship at Trinity Hall. Mr. T. L. Tuckett, Fellow of Trinity, has been appointed a Demonstrator of Physiology in succession to Dr. Eichholz, now of the Education Department.

Annotations.

"Ne quid nimis."

ATHLETICS AND PATRIOTISM.

DR. CONAN DOYLE, in presenting the challenge cups and medals to the winning teams of the Victoria-park Cricket Association, made some remarks with which the majority of Englishmen will agree. In most European countries conscription prevails, and consequently the younger men are compelled to undergo a certain amount of gymnastic exercises. On completion of the military training, however, such practices are usually neglected, and in no country are manly sports so continuously practised as in Great Britain. Compulsory games at school, and the large number of cricket, football, rowing, and other clubs that exist throughout our land are of incalculable advantage to the country at large as tending to improve the physical condition of the race. Dr. Doyle spoke very enthusiastically on the subject and stated that the true reserves of this country are the cricketers, the footballers, and the hunting men "If ever England got in a hole it was the sporting men and the sporting spirit that would pull her out of it." He also maintained that the State had as much right to compel men to keep themselves in physical fitness as to insist on the necessity for education. We certainly believe that it would be an advantage not only for the boys themselves but also for the State if the school boards would pay more attention to the physical welfare of those for whom they are responsible rather than cram them with intellectual studies for which the majority can have little use afterwards and which tend only to unfit them for the manner of life in which they are placed. We do not wish in any way to disparage the work which school boards are accomplishing, but we do insist that a short time daily spent in athletic exercises under proper instruction could well be substituted for some mental work, and that after leaving school opportunities should be freely given for the continuance of some regulated form of physical culture.

"THE DEGRADATION OF CONSULTATION."

IN a leading article in THE LANCET of May 20th, 1899, p. 1374, we commented under the above heading upon a proposal of Mr. Arthur Chamberlain to establish in Birmingham an institute where a consultant's opinion could be obtained for 10*s.* 6*d.* It was proposed to commence with two consultants, a physician and a surgeon, who were to be paid a salary of £500 per annum each, and the scheme was expected to yield a "considerable profit" The medical profession naturally enough took exception to this scheme, and eventually a public meeting of the profession was held. A copy of the resolutions passed thereat was sent to the Lord Mayor of Birmingham and he was assured that with the exception of a few of the senior and most prominent consultants all the local consultants were quite prepared to see genuine working-men for the fee of half a guinea. The reason for excluding the senior consultants was of course that if those who had the greatest reputation in the town were willing to see patients at a reduced fee they would probably get all the patients and the junior men would get none. The promoters of the scheme then asked for a list in writing of those who were willing to enter into the agreement. Dr. Saundby refused to give any list in writing, but privately informed Mr. Alderman Cook that the assurance held good for all the consultants except one or two whom he named. Dr. Saundby also suggested as a test that a certain number of working-men

might go to consultants, offer half a guinea, and see what happened. If they were not satisfied the case for a consulting institute would be very much strengthened. The committee as a body, however, determined to advertise the appointments. We have felt it to be our duty to refuse to insert such advertisements in our columns, a course of action which has, we believe, also been adopted by some of our contemporaries.

THE OFFICE OF PUBLIC VACCINATOR.

THE duties imposed by the Vaccination Act of 1898 on the public vaccinator are in one respect, as has often been pointed out, invidious and undignified. The public vaccinator is supplied by the vaccination inspector with a list of children needing vaccination and he is required within 14 days to visit the homes of these children and to be prepared to vaccinate them when consent is given without any consideration as to their being the patients of other practitioners. We insert a letter from a public vaccinator expressing his dissatisfaction with the law which requires him to act so. We are very glad that public vaccinators themselves should come forward and point out the objections to such a system. They are, indeed, very obvious. Nothing but an Act of Parliament would make it tolerable; and the question arises how far an Act of Parliament should be acquiesced in which requires a public vaccinator to do that which in his private capacity he would not think of doing. The good feeling of the profession coupled with a desire to place no obstacle in the way of the complete vaccination of the community have sufficed so far to prevent any serious friction in the working of the Act. But the Act cannot be considered satisfactory in this respect. The profession of the country is entitled to expect that the public vaccinators will help them in reducing to a minimum the interference of public vaccinators with the private practice of medical men. It is the misfortune of our vaccination system in England that it makes no use of the enormous influence of private practitioners for its furtherance. Our correspondent's letter brings the subject forward and we trust that it will not be lost sight of in any amendment of the Acts.

THE PARIS INTERNATIONAL CONGRESS OF MEDICINE, AUGUST, 1900.

THE French Executive Committee have issued a notice that every member of the Congress who desires to read a paper at the forthcoming meeting must send the title and an abstract of his paper to the proper sectional secretary on or before May 1st, 1900. To facilitate this proceeding the Executive Committee give the following list of the secretaries with their addresses in Paris:—

1. Comparative Anatomy.—Dr. Auguste Pettit, 6, Rue Saint André des Arts.
2. Descriptive Anatomy.—Dr. Rieffel, 7, Rue de l'Ecole de Médecine.
3. Histology and Embryology.—Dr. Retterer and Dr. Loisel, 15, Rue de l'École de Médecine.
4. Physiology, with Biological Physics and Chemistry.—Dr. Dastre at the Sorbonne; Dr. Gley, 14, Rue Monsieur le Prince; Dr. Weiss, 20, Avenue Jules Janin.
5. General and Experimental Pathology.—Dr. Charrin, 11, Avenue de l'Opéra; Dr. Roger, 4, Rue Perrault.
6. Pathological Anatomy.—Dr. Letulle, 7, Rue de Magdebourg.
7. Internal Pathology (corresponding to our section of Medicine in part).—Dr. Rendu, 28, Rue de l'Université; Dr. F. Widal, 155, Boulevard Haussmann.
8. The Medical Diseases of Childhood.—Dr. Marfan, 30, Rue La Boétie.
9. Therapeutics.—Dr. Gilbert, 27, Rue de Rome.
10. Pharmacology.—Dr. Chassevant, 70, Rue de Rennes.
11. Materia Medica.—Dr. Chassevant, 70, Rue de Rennes.
12. Neurology.—Dr. P. Marie, 3, Rue Cambacérès.
13. Psychiatry.—Dr. Ant. Ritti, the Charenton Asylum, Seine.
14. Dermatology and Syphilography.—Dr. G. Thibierge, 7, Rue de Surène.
15. General Surgery.—Dr. Walther, 21, Boulevard Haussmann.
16. Surgery of Children.—Dr. A. Broca, 5, Rue de l'Université. Dr. Villemin, 58, Rue Notre Dame des Champs.
17. Urinary Surgery.—Dr. Desnos, 31, Rue de Rome.
18. Ophthalmology.—Dr. Parent, 26, Avenue de l'Opéra.
19. Laryngology and Rhinology.—Dr. Lermoyez, 20*bis*, Rue La Boétie.
20. Otology.—Dr. Castex, 30, Avenue de Messine.
21. Stomatology, including certain Dental Diseases.—Dr. Ferrier, 39, Rue Boissy d'Anglas.
22. Obstetrics.—Dr. A. Bar, 122, Rue La Boétie; Dr. Champetier de Ribes, 28, Rue de l'Université.
23. Gynæcology.—Dr. Hartmann, 4, Place Malesherbes.
24. Forensic Medicine.—Dr. Motet, 161, Rue de Charonne; Dr. Thoinot, 8, Rue de l'Odéon.
25. Military Medicine and Surgery.—Dr. Catteau, the Ministry of War, Paris.
26. Naval Medicine.—Dr. Laugier, the Ministry of Marine, Paris.
27. Colonial Medicine.—M. Kermorgant, the Colonial Ministry, Paris.

The names of those duly qualified medical men who desire to attend the Congress, with a visiting card and the subscription of £1, should be sent to either of the honorary secretaries of the International Committee for the United Kingdom, Dr. Garrod, 9, Chandos-street, W., or Mr. D'Arcy Power, 10A, Chandos-street, Cavendish-square, W.

THE STRUCTURE OF THE EPITHELIAL CELLS OF THE INTESTINE.

UNDER this title Martin Heidenhain of Würzburg contributes an article to a recent number of the *Archiv für Mikroskopische Anatomie* which is remarkable for the beauty of the illustrations and the exact details which he has observed in the cells in question. He has been, he tells us, engaged in their study for the last eight years, and has experimented with all kinds of preservative and staining fluids, using as his test object the intestine of amphibia from which he has made many thousands of preparations. Up to the present time the intestinal cells have been admitted by all competent observers to exhibit well-marked longitudinal striation, the fibrillæ being parallel to each other and visible even with low powers. Heidenhain has, however, satisfied himself of the presence of several other structural features which in some instances appeared in the form of exquisitely fine striæ proceeding upwards from the upper part of the oblong nucleus towards the free extremity of the cell; in others spirally and transversely arranged striæ; and in yet other instances dark bands running at right angles or obliquely to the long axis of the cell. These appearances could not be regarded as manufactured, since the cells presented the aspect, familiar to every microscopist, of being perfectly normal, and, in addition, the better preserved the cell the more clearly visible were the structural characters referred to. He found salicylic acid in alcohol diluted to one-third of its volume to be the best fixing material—a point of great importance in obtaining good results. The cells at the sides of the folds of mucous membrane were those that were best adapted for observation, those on the ridges being often vacuolated and coarsely reticulated, which condition he regards as a secondary one due to absorption of fat or to "internal secretion" of the cell. The distinctness of the filaments visible in his preparations he attributes in part to the absorption and consumption of the interfibrillar albumin due to the frogs having been long kept in the fasting state. In his description of the cells he states that in addition to the above-mentioned fibres which extend from the nucleus towards the free extremity of the cell there is near this extremity a darker, finely granular, or cloudy zone,

not very sharply separated from the clear zone containing the fibres, which is succeeded by a peculiar homogeneous zone forming a narrow band situated just beneath the rods. A similar succession of zones has been described by other observers in different vertebrates. The filaments or fibrils present transverse segmentation, as already described by E. v. Beneden, giving them a moniliform or necklace-like aspect, and making it appear as if they were composed of granules more or less fused together. The filaments are rarely tortuous or coiled, but run in bold curves. He found no reason for believing that they proceeded from a centrosoma. On following them as a group towards the nucleus they at first sight appeared to form a cone with the apex at the nucleus, but more careful examination showed that they might be followed forming a thin but partial investment to the excentric nucleus and lying between the nucleus and the cell wall or even traceable to the deeper parts of the cell. Just above the nucleus is a cone-like space free from filaments which Heidenhain names the "dead area." He points out that the filaments may be referred to the several groups of myomitom or contractile tissue, neuromitom or nerve tissue, and tonomitom or supporting tissue. Heidenhain has further observed in many cells a dark band situated obliquely between the nucleus and the free extremity of the cell, which is traversed by dark knotted lines. This structure is most distinct in the frog, but is much less defined in the salamander and triton. Its physiological function cannot even be guessed at. Naturally he has paid much attention to the basal border of the intestinal cells which can no longer be admitted to be a mere cuticular investment. The rods are very distinct and they vary in length owing to their contractility. In the salamander, from which animal he has obtained beautiful sections, he finds that the free border of the cell presents a double contour, the intervening space being traversed by strongly defined dark lines that form the inner segments of extremely delicate protoplasmic cilia-like processes which project like the finest hairs into the lumen of the intestine and constitute the outer segments. The two segments together form the rod-like processes of Brettauer and Steinach and other authors. The nuclei of the intestinal cells are large, nearly filling the lumen of the cell, and are situated at various heights. Their margins are well marked and they contain irregularly-shaped chromatin masses and connecting filaments of the same material. The attached extremities of the cells are very soft, irregular in form owing to lateral pressure, and exceedingly difficult to preserve in a natural condition.

THE NORDRACH TREATMENT OF PULMONARY TUBERCULOSIS IN SCOTLAND.

WE have already detailed in our columns the establishments in England where the outdoor treatment of tuberculosis is undertaken. Some time ago the question of undertaking the Nordrach treatment of pulmonary tuberculosis in Scotland was carefully considered and the advice was sought of a number of the leading consultants in that division of the kingdom; as a result of their deliberations a site has been acquired in what is believed to be a most desirable locality for that purpose. Amongst those whose guidance and support have rendered the trial possible are Sir Thomas Grainger Stewart, Sir William Gairdner, Professor McCall Anderson, Professor Finlay, Dr G. A. Gibson, Dr. W. Russell, Dr. Muirhead, Dr. Affleck, Dr. Halliday Croom, and Dr. Byrom Bramwell. The site in question is 18½ miles south-west of Aberdeen and the buildings, which are in course of erection, have received the name of Nordrach-on-Dee Sanatorium. The locality being far removed from a large centre of population its air is free from contamination of every kind and rich in ozone. Surrounded on all sides by pine woods sheltering it from strong winds, the winter temperature of lower Deeside is mild. Meteorological observations for each day during the six weeks succeeding Dec. 1st, 1890, at Greenwich and lower Deeside respectively show that the mean temperature for that period at Deeside was 36·2° F. and at Greenwich 28·1°. The qualities of atmospheric purity and warmth do not exhaust the desirable properties which the climate of that district possesses, for the air is dry, the annual rainfall of 26 inches is lower than that of London, and the amount of bright sunshine is high, being 30 per cent. of the total. South-west winds prevail during nearly nine months in the year and for the most part during the months of December, January, and February, which accounts for the by no means generally known fact that during winter more warmth prevails in the north-east of Scotland than in the south-east of England. Such were the considerations which determined the choice of middle Deeside as the most desirable district in Scotland in which to test the feasibility of the Nordrach treatment.

THE BALL-VALVE ACTION OF GALL-STONES IN THE COMMON BILE-DUCT.

IT is only within recent years that this phenomenon, mainly in consequence of the observations of Professor Osler, has been recognised. In the Johns Hopkins Hospital Reports, vol. ii., 1890, under the title, "Fever of Hepatic Origin," he described some cases; Fenger of Chicago published a very interesting paper on the subject in the *American Journal of the Medical Sciences* for February and March, 1896; and in THE LANCET of May 15th, 1897 (p. 1319), Professor Osler clearly described the symptoms and pathology. The main clinical features are repeated attacks of "pain, fever, shivering, and jaundice." Recently, in an important paper in the *Intercolonial Medical Journal of Australasia* of August 20th, 1899, Dr. W. Moore has described a case which is almost typical according to Dr. Osler's description. A woman, aged 54 years, who suffered at times from severe pain in the upper abdomen, worst in the epigastric region, was deeply jaundiced. The pulse was 80 and feeble. The liver dulness was not increased and the gall-bladder could not be felt. 35 years previously she had an attack of jaundice without pain. She remained well for the next 10 years; then she had an illness associated with severe pain in the upper abdomen which lasted a month. Since that time she had been subject at intervals of from six to 12 months to attacks of pain in the upper abdomen. Once the interval was as long as four years. There was neither shivering nor jaundice in any attack. Three and a half years before the present attack she had several distinct attacks of shivering, severe pain, and pyrexia; once the temperature reached 104° F. In the last year she took food badly and lost flesh. Early in May an attack similar to the last occurred. In the beginning of June jaundice began, which gradually became intense. There were attacks of pain which lasted 24 hours or longer. A stone in the common duct acting as a ball-valve was diagnosed. A severe attack of pain occurred on June 28th and July 1st. In both she did not shiver, but complained of a feeling of chilliness before and during the attack. Afterwards there was profuse sweating. She did not vomit. The motions were "pipe-clay" and the urine was very dark. The jaundice appeared to be slightly deeper after the attacks. Laparotomy was performed on July 4th. The gall-bladder was found contracted and stones could be felt. On opening it 21 facetted stones were removed. A finger was passed through the foramen of Winslow to examine the common duct. A small round body like a marble which moved up and down in the duct for several inches was felt. On incision a calculus larger than any of the others was removed. The opening in the duct was closed and the

gall-bladder was sutured to the parietal peritoneum and an iodoform gauze drain was passed down to the opening in the duct, the gall-bladder was similarly drained, and the remainder of the parietal wound was closed. Recovery ensued, the jaundice gradually faded, and had disappeared three weeks after operation. It is noteworthy that whilst the jaundice in the last illness became very deep, in the preceding attacks it was absent or so slight as to have been overlooked.

THE PATHOLOGICAL SOCIETY OF LONDON.

THE new departure at the Pathological Society of London to which we referred in THE LANCET of Oct. 21st begins by a laboratory meeting at the Jenner Institute on Tuesday, Nov. 7th. The proceedings will consist of an exhibition of microscopic specimens and of a series of demonstrations, most of which will be illustrated by lantern slides. The microscopic specimens will be on view from 8 P.M. to 8.30 P.M. and will be exhibited by Dr. Allan Macfadyen, Mr. S. G. Shattock, and Dr. G. Dean, the latter of whom will show a new streptothrix. At 8.30 P.M. the demonstrations will begin and will consist of the following items: (1) Dr. Macfadyen and Dr. A. Salter, a Diphtheria-like Organism found in Pigeons (lantern); (2) Dr E. Klein, F R.S, the Bacillus of Pseudo-tuberculosis (lantern); (3) Mr. Victor Horsley, F R S, a Lantern Demonstration; (4) Dr. G. Dean and Dr. A Salter, Hæmolytic Action of Toxins, a test-tube demonstration; (5) Dr. J. W. Washbourn and Dr. J. W. H. Eyre, the Method of Testing Anti-pneumococcal Serum; (6) Mr. S. G. Shattock, Chromocytic Clumping (lantern); (7) Dr. G. Dean, Diphtheria Immunity (lantern); (8) Dr. D. Orr, A New Method of Staining Medullated Nerve Fibres and a Modification of Marchi's Method (lantern); and (9) Dr. A. Salter, Tetanus Immunity. It is hoped that members of the society will show their practical approval of this alteration in the *régime* of the meetings and follow the example of the Presidents of the Royal Colleges of Physicians of London and Surgeons of England, and the Presidents of the Royal Medical and Chirurgical and Clinical Societies, who have expressed their intention of being present, although Sir William Mac Cormac will unavoidably be unable to carry out his wish. It may facilitate the advent of members to this meeting if the exact position of the Jenner Institute is pointed out. It is at the extreme west end of Grosvenor-road, S.W., close to Chelsea Bridge. Omnibuses run every five minutes past the door from Victoria and from the top of Sloane-street. The cab fare from Oxford-street is 1*s.* 6*d.* Sloane-square and Victoria (District) Stations are not far off, while Grosvenor-road Station (the first station from Victoria, L.B.S.C.) can be reached by two minutes' walk.

THE EXCITABILITY OF MOTOR NERVES.

THE excitability of the motor nerves in different segments of their course has just been the subject of a long and carefully conducted series of researches by K. Eickhoff of Meschede in the Tübingen Laboratory, who has published his results in the September number of *Pflüger's Archiv für Physiologie*. Many of the older but still excellent observers experimenting on the sciatic nerve of the frog isolated and divided at as high a point as possible have satisfied themselves that this nerve exhibits a greater degree of excitability for electrical stimuli of the same strength in the upper part of its course than below, an effect which Heidenhain attributed to the section. More recently, however, those who have made experiments on the completely uninjured sciatic nerve have found that this nerve possesses the same degree of excitability throughout its whole course. Those who have experimented on some of the nerves of mammals which pursue a long course, such as the phrenic and the vagus, have arrived at the same conclusion not only where the stimulus applied was a constant current or a breaking shock of an induction apparatus, but also when it was of a mechanical nature. Eickhoff experimented on the sciatic nerve of the frog and applied the current of an ordinary induction apparatus the uniformity of action of which had been carefully tested. He also examined the effects of chemical and of mechanical stimuli. The general results which he obtained were first in regard to electrical currents—that when the shock was sharp and sudden the excitability of the nerve in its proximal and peripheral segments was about the same, but for currents which slowly rose in intensity the lower segment was much less excitable than the upper, the strength of the current having, in fact, to be about doubled to obtain the same result. As to chemical stimuli, on the other hand, they undoubtedly acted much more strongly below than above; weak chemical stimuli, indeed, acted inhibitorily upon the muscle when applied to the upper portion of the nerve and caused relaxation of the muscle. Persistent tetanus was rarely seen and then only after the action had been long continued. Mechanical stimuli, such, for example, as from 150 to 400 milligrammes falling from different heights, as from one to several hundred millimetres, always acted more strongly when made to strike the nerve at its upper part than below; smaller weights falling from correspondingly greater heights, and hence with considerable velocity, acted more strongly than heavier weights falling less distances and therefore with less velocity. What conclusions can be drawn from these results of experiments in regard to the nature of nerve excitation? asks M. Eickhoff. In a strict sense, he admits, none; but he points out that if the water from a reservoir passes through a long tube made of different materials and with walls varying in thickness though having everywhere the same lumen, the water will flow equally and continuously, but if a weight presses on a thin-walled portion of the tube it will compress it or, supposing the tube to be very thin-walled, it may possibly undergo dilatation, as by removal or reduction of the pressure of the atmosphere, and we may consider the action of different stimuli upon nerves to be explicable in the same way. One stimulus may promote, another may reduce, the excitability of a nerve, and so, as Gotch and Macdonald have remarked, we cannot correctly speak of the varying excitability of one and the same nerve in different parts of its course without knowing the nature of the stimulus which has been applied, for the part of the nerve stimulated may react very differently towards different stimuli. The nerves can no longer be regarded as mere telegraph wires in which various processes differing only in regard to their strength originate and travel; but, as Hering has quite recently advanced in his "Theory of Nerve-activity," they must be considered as fasciculi of living arms which are extended from the elementary units of the nervous system—that is to say, the ganglion cells—and are capable of qualitatively different excitation. Hence our conception of the excitability of a nerve must progressively widen and should not be limited to the question of how a nerve reacts to an opening induction shock.

LEGISLATION AS REGARDS MILK AND TUBERCULOSIS IN AMERICA

THE *Philadelphia Medical Journal* of Oct. 7th, 1899, reports that the dealers and vendors who control the milk-supply of Rochester, N.Y., have organised an opposition to the ordinance promulgated by the Board of Health of that city. The ordinance requires that milk offered for sale shall be taken only from cows that have been tested at least once a year with tuberculin. The dealers do not take their stand on the ground that the danger of contracting tuberculosis through milk has been exaggerated, but they appeal rather to the fears of the people in this particular, and would

oppose legislation on the pretext that the requirements of the Board of Health constitute in themselves a danger to the public They urge that a cow which does not react to tuberculin and therefore may *ipso facto* be deemed safe may nevertheless develop tuberculosis within a twelvemonth thereafter—in fact, may do so two months after—and yet during the long period allowed—viz., a year—before the next testing with tuberculin its milk may be sold as innocuous in conformity with the regulations imposed by the Board of Health. Thus they contend that the care and vigilance of milk-producers and of health officers would naturally be relaxed. They also play upon the fears of the people by saying that tuberculin is a poison and the product of ptomaines—of which the public have heard so much in the lay press in recent months—and that the administration or injection of the tuberculin into healthy cows would seriously affect their physical condition and render the milk deleterious and unsafe. From which it will be at once seen that while the first contention of the Rochester, N.Y., milk-vendors is disingenuous the second is untrue, and both are so put forth as to play on the fears of the public who may be presumed to know little of the question. It may be interesting in this connexion to reiterate the recent findings of the Jenner Institute of Preventive Medicine. The Institute recently examined 100 samples of milk submitted from the Hackney District of London and found[1] that 17 contained tubercle bacilli of virulent character as determined by animal inoculation. The fear that tuberculosis may be communicated to cattle by the injection of tuberculin is in itself groundless and is refuted by the facts relating to the methods of preparation of tuberculin.

RESTORATION OF THE CONJUNCTIVAL SACS IN CASES OF SYMBLEPHARON BY MEANS OF THIERSCH SKIN GRAFTS.

AN instructive pamphlet has just been published by Dr. Charles May of New York with the above heading. He appears to have obtained very excellent results in these exceedingly obstinate and recalcitrant cases. Nothing appears simpler in cases of limited adhesions between the globe of the eye and the inner surface of the lid than to divide the bridles with a knife or by a snip of the scissors. Perfect freedom of movement of the globe can be immediately obtained, but the surgeon is soon taught by experience that recurrence of the connexion soon takes place and that in a week or two the adhesion is re-established. If this occurs with narrow bridles it may well be supposed that disappointment is sure to follow the attempt to sever the connexion between the globe and lid where the two are joined by a wide area of cicatricial tissue as takes place in the bad cases of symblepharon which are seen after lime-burns and other similar injuries. Dr. Charles May in one such case of complete symblepharon on which he operated in the manner to be immediately described has been able to keep the patient under observation for more than 20 months during which time there has been no shrinking or any modification of the good results originally obtained. The adhesion between the lid-conjunctiva and globe in this case was first freely divided so that the lids were perfectly moveable. The skin of the inner side of the arm was cleansed with soap, washed with sterilised water and then with ether, and finally moistened with warm sterilised 0·6 per cent. salt solution with which the blade of the knife was kept wet. Two broad retractors were used to stretch the skin and an extremely thin layer, including only the epithelium and the tips of the papillæ, was removed. The size of the graft was one and a half inches by one inch. Two such grafts were used in this case. They were transferred from the razor to a porcelain shell with the epithelial surface next the porcelain and were carefully smoothed out and made to cover the shell entirely. The bleeding having ceased the graft-covered shell was put in position, the lids were sutured by three silk sutures, and a thick layer of cotton-wool soaked in a solution of boric acid and a firm bandage were applied. Some pain, swelling, and discharge followed. The grafts united, and by a repetition of the operation on a smaller scale complete freedom of the globe resulted and an artificial eye could be worn. The result reflects much credit on Dr. May's skill.

[1] THE LANCET, Sept. 23rd, 1899, p. 849.

THERAPEUTIC USES OF NITRO-GLYCERINE.

IN a paper on the pharmacological action and therapeutic uses of the organic nitrates, published in the September number of the *Medical Chronicle*, Dr C. R. Marshall, Professor of Materia Medica in the University of St. Andrews, devotes a page to nitro-glycerine. He considers that it is serviceable only in diseases connected with actual or relative spasm of unstriped muscular fibre. This group may be subdivided into two main divisions—circulatory and respiratory—other conditions of this class (colic of various kinds, &c.) being much better relieved in other ways. As regards respiratory diseases, spasm of the bronchial tubes (asthma) is sometimes benefited by the administration of nitro-glycerine, and relief in other kinds of dyspnœa is said to occur. That some influence is exerted on the bronchial muscles there can be no doubt, but in most cases of asthma the results are disappointing. In pneumonia and other respiratory diseases there seems to be no rational basis for the use of nitro-glycerine. This drug is of the greatest value in conditions affecting the circulation and, as far as experimental evidence goes, only in conditions accompanied by an increase in arterial pressure. When this occurs and gives rise to symptoms such as pain, these are often quickly relieved by nitro-glycerine or any other rapidly acting vaso-dilator. But cardiac pain is not always so caused, and in these cases vaso-dilators as a rule fail to relieve. In some individuals severe cerebral effects are produced by small doses of nitro-glycerine; others bear comparatively large doses—even as much as a drop of pure nitro-glycerine—with impunity. Under ordinary circumstances tolerance is quickly established. The most common ill-effects produced by nitro-glycerine and vaso-dilators generally are distressing palpitation and headache, the latter often of a severe kind and persisting long after the vascular effects have passed away. Other effects are dizziness, tinnitus and dilated pupils, hæmaturia and choreic movements, and after large doses weakness in the legs, nausea, and vomiting. The solid organic nitrates—erythrol tetranitrate, mannitol hexanitrate—are of value where gentle and prolonged dilatation of the blood-vessels is required. Erythrol tetranitrate is especially useful as a prophylactic in preventing the onset of anginal pain.

PERIODICAL VOMITING ACCOMPANIED BY SERIOUS MENTAL SYMPTOMS

DR. A. N. BLODGETT reports in the *Boston Medical and Surgical Journal* (Sept. 28th, 1899) the case of a boy, aged 13 years, who was subject to periodical attacks of vomiting. The boy was well developed and even precocious, mentally and physically. He had a slight neurotic heredity. Physical examination showed nothing abnormal in the chest or the abdomen. His history was as follows. About once a month he had an attack of vomiting lasting from two to seven days. The attack was ushered in by a prodromal period in which the patient felt languid and spiritless, became pale, and suffered from progressive anorexia and a slight elevation of temperature. The attack itself then began with paroxysmal vomiting, enormous quantities of fluid contents of the stomach being ejected. The matter vomited contained particles

of food taken on the previous day and such abnormal substances as wool, feathers, lint, &c. It appeared that for about a fortnight after the attack the patient's character and conduct would be normal, but after this would succeed a period of restlessness and of extreme voracity, and during this period he would swallow such objects as wool and feathers, candles, boot-blacking, &c. During this period his moral character also underwent a change for the worse. In consequence of the above it was necessary to follow a special method of treatment for this patient. He was subjected to an emetic and laxative treatment prior to the onset of such a period of restlessness and voracity as alluded to above with a view to "abort" the threatened attack. This was entirely successful at the first attempt and was repeated subsequently and regularly for some months whenever a recurrence of symptoms was threatened. The success of the procedure was undoubted and after some months of treatment he was pronounced cured. There has not been a repetition of the attacks since. Dr. Blodgett states that a careful inquiry into the patient's habits and history failed to reveal any cause for the trouble. He appends to his paper a brief review of the literature of the subject.

THE ORGANISATION OF THE PROFESSION.

IN the article on the Organisation of the Profession which appeared in our issue of Oct. 21st, in publishing a list of the various unions, guilds and societies concerned with questions of medical reform we gave the name of Mr. G. H. Broadbent, of 8, Ardwick-green, Manchester, as secretary of the Manchester and Salford Provident Dispensaries Medical Officers' Association. We are informed that this statement is quite erroneous and we wish to express our regret to Mr. Broadbent, who, as our readers are probably aware, has always shown great energy and zeal in questions affecting the organisation of the profession and the struggle for the reform of abuses, for any trouble or annoyance which our unintentional mistake may have caused him. The fact of the inclusion of the society in question in our list is sufficient to show that we were under the impression that it was a body formed by the medical officers of the provident dispensaries to protect themselves against their employers, the lay committees. In preparing such a list as that which we published a good deal of difficulty was experienced. We hope shortly to be able to publish a supplementary list and shall be grateful to our readers for any additional information on a subject which is of the highest interest and importance to them all.

EGYPT AS A HEALTH RESORT.

THE climate of Egypt may without exaggeration be described as magnificent. Taking into account the requirements of the vast majority of invalids there are few, if any, winter health resorts that are meteorologically preferable. In respect of the invalid's three chief essentials—air, dryness, and sunshine—nature has behaved most generously, not to say lavishly; while with regard to temperature, wholesome food and water, and gentle breezes, there is little to be desired. For five months at least out of the 12—i.e., from November to March—the Egyptian climate may be said with truth to approach perfection. But to every shield there are two sides, and unfortunately in the present case the legend on the reverse makes less pleasant reading. Nature has, indeed, blessed the country, but for centuries the inhabitants have acted as though it were their object to neutralise her blessings. Setting up coolness as their *summum bonum* they encourage dirt, darkness, and damp to the uttermost, shutting out the sunlight as far as they can from their streets and dwellings, while in order to economise space they crowd their houses up one against another until decent curtilage becomes an impossibility. In all the large towns, but especially in Cairo, the subsoil, permeated with innumerable loose-bottomed cesspits, is super-saturated with putrescent organic matter and as a necessary consequence thick mists frequently rise during the night enveloping the inhabited area in their noxious folds till several hours after sunrise. During the 17 years we have occupied Egypt much has been done to improve the sanitary condition of the people and to teach them the beauty of cleanliness, but it must be confessed that as yet it has not been found possible to embark on sanitary reform properly so called. At first the most rigid economy was absolutely necessary on account of the deplorable state of the national finances, and more recently the annual surpluses have been swallowed up in unavoidable military operations. It is now to be hoped and expected, however, that in the near future funds will be forthcoming for the long-promised drainage of Cairo and also for all the other large sanitary schemes that have been duly formulated and of which the urgency becomes each year more and more imperative. In the winter of 1894–95 nearly 7500 travellers from Europe and America visited Egypt, and judging by the yearly increment up to that date their numbers during the current season will most probably exceed 10,000. In the ranks of this army there will certainly be many invalids in need of convenient dwelling-places in salubrious localities, but unhappily such do not exist on anything like an adequate scale. As Sir Hermann Weber observed at the recent Congress on Tuberculosis: "If there were suitable sanatoria the Egyptian climate could be made good use of." The hotels in Cairo and elsewhere are well equipped, not to say sumptuous, but, with the exception of the Ghezireh Palace, the Mena House, and one or two at Helouan, an account of which will be found in another column, all are built on contaminated sites. To people in health this may not matter so much, but in the case of invalids it must undoubtedly militate against their well-being and diminish the chance of their recovery.

THE REMOVAL OF THE MUZZLE IN LONDON.

THE revocation of the muzzling order over the metropolitan area, which took effect on Oct. 27th, has caused great satisfaction to that large section of the British public who keep dogs. Had we not every confidence in Mr. Walter Long's judgment we should be inclined to regret the step. It has been for a long time evident to all but a few that the muzzling order caused only an infinitesimal amount of inconvenience to the animals while it certainly ensured the safety of the inhabitants of London from a terrible disease. But Mr. Long's attitude in the matter of dog-muzzling has been so consistent, he has been so firm as well as so good-tempered in maintaining the prohibition that he was advised, and which the records of his department showed, to be the right one, that we can feel perfectly certain that the revocation is not premature. He would not have endangered all his past policy by a little vain hurry. We doubt if ever an English Minister has been subjected to such hysterical and idle accusations as have fallen to the lot of Mr. Long for doing what he conceived to be his duty towards the public. We would ask our readers to invite the public, when the muzzling orders are under discussion, to look at the following figures which the Board of Agriculture can quote if the department should ever care to answer their ill-informed if soft-hearted assailants. The official summary of the Board of Agriculture dated Oct. 31st, 1899, dealing with the returns made under the Diseases of Animals Act for 1899, shows that during the 43 weeks of this year now elapsed 8 cases of rabies in dogs have been reported. During 1898 17 such cases were reported, during 1897 155 cases were reported, during 1896 438, and during 1895 672. It is important also to note that during 1898 and 1899 no cases of rabies in animals other than dogs were reported, while in 1897 there were 16 such cases reported, in 1896 22, and in 1895 55.

THE annual dinner of the Aberdeen University Club, London, will be held at the Trocadéro Restaurant, on Wednesday, Nov. 15th, at 7 P.M. Colonel Kenneth Macleod, I.M.S., M.D. Edin., Professor of Military Medicine, Army Medical School, Netley, will take the chair, and intending diners should communicate with the honorary secretaries, Mr. J. Gerard Laing and Dr. James Galloway, at 54, Harley-street, W.

THE new Director-General of the Egyptian Sanitary Department belongs, or rather until recently belonged, to the Royal Army Medical Corps. Mr. Horace Henderson Pinching, who lately resigned his position as Surgeon-Major to become Chief Inspector of the Sanitary Department, has now been selected to fill the post of Director-General left vacant by the retirement of his late chief, Sir John Rogers.

THE President of the Local Government Board will attend the annual dinner of the Association of Public Vaccinators on Saturday, Nov. 25th, at the Trocadéro Restaurant. Any public vaccinator wishing to be present can obtain particulars from Mr. V. A. Jaynes, Honorary Secretary, 157, Jamaica-road, S.E.

DR. CORFIELD, Professor of Hygiene at University College, has been appointed Consulting Sanitary Adviser to H. M. Office of Works. This is a newly created post and it is satisfactory to find that the authorities of this department have now determined to avail themselves of skilled medical, in addition to engineering, advice.

WE are requested by the Regius Professor of Medicine to remind candidates for the Oxford Diploma in Public Health that they must send their names without delay to the Secretary of the Board of Faculties, Clarendon Building, Oxford.

THE Spanish Red Cross Council have bestowed the diploma and insignia of "Member of Honour" for services rendered on Mr. W. J. McCulloch Ettles, M.D. Abard., of the Crescent, Minories, London.

Mr. G. H. Makins will accompany Sir William Mac Cormac to South Africa. Mr. Frederick Treves is also proceeding to Cape Colony.

THE WAR IN SOUTH AFRICA.

WE are writing at a time when a very natural feeling of depression and anxiety exists in the public mind owing to the news of a serious disaster having been received from the theatre of war. It will be remembered that Sir George White in his despatch from Ladysmith of Oct. 30th reporting the military engagement of that day alluded to the fact that two battalions had not returned but were expected to arrive the same evening. The reason of their not returning has unhappily been accounted for by the fact that they, together with a mountain battery, had been surrounded and attacked and captured by the Boers. We are at present without the full details of the occurrence, but Sir George White has, in a subsequent despatch, given such an explanatory description as to render it quite easy to understand how it was brought about. The general officer commanding when first reporting the circumstance exonerated the troops from all blame, and expressly took upon himself, like an honest man and a gentleman, the entire responsibility of what had occurred, adding that the troops had got into an untenable position. Such are briefly the facts. While there is no need to indulge in a spirit of exaggeration and to speak of the occurrence as a terrible disaster there is no doubt about its serious nature and gravity owing to the fact that we urgently need the presence of every soldier we can muster at the present time and shall continue to do so until the arrival in South Africa of large reinforcements on their way from this country. The loss of two infantry battalions and a battery of mountain artillery—amounting to a force of some 1300 men—to say nothing of its moral effect and the blow it inflicts on our prestige in South Africa and elsewhere, is unquestionably of serious moment. It places the British force at Ladysmith in a much worse position than it occupied before, whether General White elects to stay at Ladysmith inside his entrenchments or to retire in some other direction. With the arrival of the large force now on the way to South Africa a new order of things will, no doubt, be inaugurated; but some time must necessarily elapse before this can take place and before arrangements can be made and perfected for the army corps to take the field. There is no blinking the fact that our initial military difficulties have mainly arisen from the pressure of political considerations. The policy of patience and forbearance displayed by the British Government had been carried on so long and to such an extent as to put this country at a serious disadvantage at the beginning of the war. We have been greatly outnumbered and compelled to adopt a defensive line of action against forces who had been long preparing for this campaign, who knew every inch of the ground, and who could select those positions most favourable to their own tactics. But admitting all this, it does not afford any real ground for loss of confidence in what must be the ultimate result, for which we must be content to wait, making up our minds to go through a certain amount of anxiety in the meantime.

What concerns us is the effect on the sick and wounded and our military hospital service. We do not think that too much reliance should be placed in the accounts which have appeared about the Boers firing on ambulances and so forth. War is never a humane trade. Mistakes must occur in the stress of warfare and there will always be some of those taking part in it who are unworthy of being regarded as soldiers, but it would be very unjust on that account to bring any general indictment against the troops of the South African Republics. Nothing could have been better than General Joubert's conduct in regard to General Symons and his widow, Lady Symons, for example, or in regard to his conduct after the recent fight near Ladysmith. Moreover, the principal medical officer at Glencoe telegraphed to the State Secretary at Pretoria conveying his thanks, on behalf of all the British officers and men in hospital at Glencoe, for the extreme kindness shown by both Boer officers and men. The telegram added that the wounded were doing well and that none of the officers were likely to die.

We may mention, *en passant*, that Surgeon-Captain Buntine, an Australian, of the Volunteer Medical Corps, has been mentioned in General White's despatches for conspicuous gallantry in the field at Glencoe. He carried a wounded carabinier out of action under heavy fire.

It seems pretty clear that Ladysmith, which is still being shelled by the Boers, will be completely invested and that the force will be cut off from outside communication or from retreating to the east or south. All will depend upon the defending force being able to hold out until the reliefs come, which it is generally thought can be done. In this case the water-supply of the garrison will be a matter of primary importance both as regards its quantity and especially its quality, if an outbreak of enteric fever is to be avoided.

Two excellently designed and fitted hospital ships have already left this country and a third is, we hear, in course of preparation, and others will probably be fitted out by volunteer aid societies and follow. A good deal of activity has been displayed on the part of the Red Cross societies and, as we have already said, there is every prospect of the troops composing this expeditionary force being well cared for, as far as the expenditure of money and the exercise of care and forethought are concerned. The Government are availing themselves of the services of three civil surgeons of eminence, Sir William Mac Cormac, Mr. Treves, and Mr. Makins. It would be difficult to have made a better selection, and it may be safely predicted that they will render very opportune service in the field, more especially as consultants and as operating surgeons whenever their services in this respect are needed. The military medical staff sent out to South Africa will be a large one when the whole force has arrived. The hospitals, stores, and equipment, and the hospital and nursing staff (apart from the contingent supplied by aid societies) will obviously be considerable, but when these come to be split up

and distributed over the theatre of war they will probably not prove at all in excess of the requirements. It will call for high administrative or organising capacities on the part of medical officers in the upper ranks of the Army Medical Service, and we have every reason to hope and believe that these will be forthcoming.

CALENDAR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual Calendar has recently been published by the Council of the Royal College of Surgeons of England. It shows that there are 1215 Fellows on the Roll of the College (as compared with 1195 last year), 1078 of whom obtained the Fellowship by examination, 19 were elected as Members of 20 years' standing under Section 5 of Cap. 15, Vict., 116 by election, and two are *ad eundem* Fellows. There are 17,384 Members (against a total of 17,199 last year, an increase of 185) and 562 Licentiates in Midwifery—the examination for this special Licence having been discontinued since 1876. The Licentiates in Dental Surgery are stated to number 1366 (an increase of 83 over last year, and 180 over 1897) and the Diplomates in Public Health to number 336.

During the past collegiate year only three candidates presented themselves in elementary physiology, all of whom passed. 376 candidates presented themselves in elementary biology, of whom 287 passed and 89 were referred. Of 425 candidates who presented themselves in chemistry 231 passed and 194 were referred; in materia medica, of 37 candidates 21 passed and 16 were referred; in practical pharmacy, of 337 candidates 264 passed and 73 were referred. The proportion of the fees paid by candidates for these examinations receivable by the College amounted to £1908 18*s.*, the examiners elected by the College receiving £189 5*s.* The examiners in elementary biology are appointed by the Council of the College, those in elementary physiology in conjunction with the Royal College of Physicians of London, and those in chemistry, materia medica, and practical pharmacy by the Royal College of Physicians of London under the scheme for an Examining Board in England.

The examiners in anatomy and physiology for the Second Examination are appointed in conjunction with the Royal College of Physicians of London; they have conducted the Primary Examination under the Old Regulations as well as the Second Examination of the Examining Board. 616 candidates presented themselves for examination in anatomy, of whom 365 passed and 251 were referred. 613 candidates presented themselves in physiology, 366 of whom passed and 247 were referred. The proportion of fees paid by candidates to the College for these examinations amounted to £2830 16*s.*, of which the examiners received £1005 13*s.* 4*d.*

The Board of Examiners in anatomy and physiology for the diploma of Fellow, elected annually by the Council of the College, held two meetings for the examination of 191 candidates, of whom 75 passed, whilst 116 were referred. The fees paid by candidates amounted to £1254 15*s.*, of which the Board of Examiners received £764.

The Court of Examiners, 10 in number, are elected by the Council from the Fellows of the College for a period of five years. They conduct the Third or Final examination in surgery of the Examining Board in England, as well as the Second or Final examination for the diploma of Member under the Old Regulations and the Pass or Final examination for the diploma of Fellow. During the past collegiate year the Court held two examinations for the Fellowship and four for the Membership. At the former there were 65 candidates, 41 of whom passed, 42 were referred for six months, and two for one year. For the membership 886 candidates presented themselves in surgery, of whom 509 passed and 377 were referred. The fees paid by candidates for these examinations amounted to £9923 11*s.* and the fees paid to the Court of Examiners and the examiners in midwifery amounted to £5464 19*s.* The examiners in medicine under the scheme for an Examining Board in England are elected by the Royal College of Physicians of London. Of 689 candidates who presented themselves, 477 passed and 212 were referred. The examiners in midwifery are appointed in conjunction with the Royal College of Physicians of London and have examined 887 candidates, of whom 548 passed and 339 were referred.

The Board of Examiners in dental surgery under the Old Regulations have held two meetings for the examination of 141 candidates, 85 of whom received the licence and 56 were referred. The fees received from candidates amounted to £892 10*s.*, of which the examiners received £588. Under the New Regulations in preliminary science four examinations have been held, at which 33 candidates presented themselves, of whom 15 passed and 18 were referred. (This examination is identical with Part I. of the First Examination of the Examining Board in England and is conducted by the examiners in chemistry appointed under the conjoint scheme.) The fees received for the examinations amounted to £103 19*s.*, of which the examiners received £24 15*s.*

The examiners in public health appointed in conjunction with the Royal College of Physicians of London examined 40 candidates in Part I., 26 of whom passed and 14 were referred; in Part II., of 34 candidates, 24 received their diplomas and 10 were referred. The fees received by the College for both parts of the examination amounted to £182 14*s.* and the amount paid to the examiners to £111.

With regard to the finances of the College it appears that the income for the year amounted to £24,711 1*s.* 1*d.*, the largest item being derived from the fees paid by candidates for the diplomas of the College—viz., £17,097 3*s.*—the next largest being dividends on the Erasmus Wilson bequest, £4915 2*s.* 8*d.*; investments, £851 6*s.* 10*d.*; rent from chambers adjoining the College produces £750; hire of rooms, sale of questions, &c., at the Examination Hall £750 10*s.* 2*d.*; incidental receipts at the College £45 9*s.* 9*d.*; receipts from trust funds, £291 6*s.* 6*d.*; dividends from sinking fund for Savoy estate, £10 2*s.* 2*d.*

The expenses for the year amounted to £23,558 16*s.* 8*d.*, leaving a balance at the bank and in hand at Midsummer day, 1899, of £1152 4*s* 5d., the largest item being (as in the receipts) in connexion with the examinations, viz.: examiners' fees, £8147 12*s.* 4*d.*; half expenses at Examination Hall for the purposes of the examinations, £3939 17*s.* 10*d.* (this amount includes rent, rates, taxes, and insurances, which absorb the no small amount of £1889 3*s.*); expenses of Fellowship and dental examinations, £448 1*s.* 3*d.*; expenses of public health examinations, £29 4*s.* 11*d.*; half expenses of the scientific research laboratories on Victoria Embankment amount to £708 4*s.* 8*d.* (this does not include any part of the rent, rates, taxes, insurance, fuel, or light). At the College, rates, taxes, and insurance stand at £1368 11*s.* 6*d* ; extraordinary expenses (i.e., installation of electric light, Hunterian festival, &c.), £546 13*s.* 3*d.*; fees to Council, £244 13*s.*; salaries, wages, and pensions in the three departments—museum, library, and college—£4718 11*s.* 2*d.*; law expenses, £475 18*s.* 4*d.*; stationery, printing, postage, &c , £304 17*s.* 6*d.*; fuel and light, £367 0*s.* 7*d.*; repairs, painting, furniture, &c., £434 12*s.* 4*d.*; purchase of books, £737 11*s.* 10*d.*; binding and printing calendar, £98 1*s.* 3*d.*; lectures, catalogues, specimens, &c., for museum, £464 8*s.* 10*d.*; trust funds, £302 0*s.* 4*d.*; miscellaneous items, £202 15*s* 9*d.*

The secretary's report contains an abstract of the work done by the Council and committees at the College, the Committee of Management of the two Royal Colleges, the research laboratories on Victoria Embankment, also reports of meetings of Fellows and Members, elections, &c.

From the annual report of the Finance Committee we find that the gross income of the College for the past year is £24,711, being £672 greater than the gross income of the previous year. This increase is chiefly due to an advance in the amount of the fees received for the examinations of the Combined Examining Board. Under this head there are an increase of £26 on the First Examination, a decrease of £47 on the Second Examination, and increases of £144 and £538 respectively as regards the Third Examination and the diploma fees paid by university candidates, making altogether a net increase on these examinations of £661. There is also an increase of £66 in the incidental receipts of the Combined Examining Board. As regards the receipts from the Membership examinations under the Old Regulations there is a decrease of £129, while the receipts from the Fellowship examinations are £86 more and those from the Dental £60 less than in the previous year. The other divisions of income differ but little as compared with the previous year.

The expenditure of the College for the past year amounted to £23,559, being £203 in excess of the expenditure of the

previous year. Owing to the greater number of candidates at the third examination of the Combined Examining Board there is an increase of £425 in the amount of the fees paid to the examiners of that board. There is a saving of £89 on the expenses of the Examination Hall and of £20 in the case of the laboratories. The general working expenses of the College in Lincoln's Inn-fields are £601 less than in the previous year, the difference being accounted for by the absence of any exceptional repairs in the year just completed. The amount is still some £300 above the normal, owing to the inclusion in the year of a part of the expense involved in the hearing of the appeal of the College for exemption from the payment of Corporation Duty. There is an increase of £171 in the special expenses of the museum and of £40 in those of the library. The extraordinary expenditure amounts to £546, as compared with £451 in the previous year, the chief items being for the installation of the electric light in the basement and the conservator's house and for the Hunterian Festival.

The balance of income over expenditure this year amounts to £1152. This result is better than that attained last year, when the balance only amounted to £683, but the result is not equal to that of the four years preceding the last year, in which years the balance amounted to £2018, £1481, £1211, and £2125 respectively. When, however, the exceptional expenditure for the installation of the electric light and for the lawsuit in which the College has been engaged is taken into consideration the result must be regarded as satisfactory.

The following statement shows the work done and the changes that have taken place at the research laboratories of the two Royal Colleges on Victoria Embankment.

1. *Director of the laboratories.*—In March, 1899, Dr. G. Sims Woodhead, having been appointed to the chair of Pathology in the University of Cambridge, resigned the Directorship of the laboratories. Dr. Woodhead had been director of the laboratories since their institution in 1890, and the success and high repute of the laboratories are largely due to his ability and untiring energy. The following resolution was adopted by the Council on the acceptance of his resignation—viz., "That, in expressing their regret at the resignation of Dr. Sims Woodhead, the Council desire to record their appreciation of the important services rendered by him to the College, to science, and to the community during his term of office as Director of the laboratories." Dr. Woodhead has been succeeded by Dr. Thomas Grigor Brodie, formerly lecturer on physiology at the Medical School of St. Thomas's Hospital. Dr. G. E. Cartwright Wood has been appointed superintendent of the bacteriological department. His duties include the preparation of diphtheria antitoxin and the testing of antitoxic serum sent to the laboratories.

2. *Research work.*—During the past year several new applications for permission to work in the laboratories have been received and approved by the committee. On June 9th, 1899, the number of those working or having received permission to work during the preceding year was 17. Investigations upon the following subjects have been carried out: intravenous and subcutaneous injection of various carbohydrates in relation to diabetes; the nature of the glycosuria produced by phloridzin and carbonic oxide poisoning; the action of certain constituents of blood-serum; the mode of production of the fall in blood-pressure following the intravenous injection of serum in certain animals; the constituents of serum which produce this fall in blood-pressure; the chief chemical characters of the bromine compounds of nucleo- and other proteids; the decomposition products of muscle proteids; the bacteriology of diphtheria; the bacteriology of the vaginal secretions; the production of diphtheria toxin; the early and late physiological action of diphtheria toxin, both upon intact animals and upon isolated organs; the isolation of diphtheria toxin; the production of diphtheria antitoxin; the separation of antitoxin from serum; the chemical properties of antitoxin; the filtration of toxin and antitoxin solutions through gelatin and other media; the nature of the antagonism between toxin and antitoxin; the place of production of antitoxin within the body; the antitoxic properties of bile; the part played by the liver in the formation of antitoxin; the production of toxin by the pneumococcus; the formation of pneumococcic antitoxin; the growth of typhoid bacilli in soil; the general pathology of tuberculous infection; the influence of ozone upon the growth of various micro-organisms; the study of conditions affecting the growth and virulence of the tubercle bacillus; the pathogenic action of yeasts; the systematic bacteriological examination of water; the toxicity of bacillus coli communis; the products produced by the growth of bacillus coli communis upon different media; irritation of the pleura and pleurisy; the results of extirpation of the suprarenal; general pathology of the eye; the healing of corneal wounds; the secretion of the aqueous humour; diseases of the jaws; the bacteriological and histological examination of cysts of the jaws; the toxicity of urine in relation to uræmia; nerve regeneration; the effect of lowering the vitality and varying other conditions upon the sex of offspring in rabbits; vulvo-vaginitis in children; the nature and cause of pelvic suppuration; the vascular mechanisms of the testis; the physiological action of testicular extract; and the pathology of abortion. Many important papers dealing with work carried out in the laboratories have been published during the year.

3. *Preparation of diphtheria antitoxic serum.*—The preparation of diphtheria antitoxic serum for the treatment of cases in the hospitals of the Metropolitan Asylums Board has been continued during the year, and has now been placed in the charge of Dr. Cartwright Wood. The method of preparation now employed is the same as in the previous year, and still better results have been obtained in regard to the strength of antitoxin obtained. The mixed serum now issued to the hospitals averages 400 antitoxin units per cubic centimetre. For the year ending June 4th, 1899, 15,322 doses each containing 4000 units and 11,886 doses each containing 2000 units have been supplied.

4. *Goldsmiths' Company research grant.*—The balance of the grant entrusted to the committee by the Goldsmiths' Company has been expended during this year and the Company have given a further grant of £500 for the continuation of the work. During the year the grant has been chiefly utilised, in fulfilment of one of the conditions under which it was given, in supplying antitoxic serum to various general hospitals and children's hospitals. In this manner 341 doses of 4000 units each and 1958 doses of 2000 units each have been distributed during the year.

THE PLAGUE.

AMID the rapid and exciting march of events in South Africa and the stress of war we are very apt to lose sight of the progress of plague. Our special correspondent in India keeps the readers of THE LANCET *au courant* with the course of the disease in that country. Plague may be regarded as endemic in certain districts of India. For the week which ended on Oct. 7th last there were 6727 deaths in India from that disease, over 1000 more than the total of the previous week.

In Poona, where the disease has of late shown decided signs of improvement, great sympathy, not unmixed with anxiety, has been caused by some of the recent deaths among Europeans. Miss Burnett, the youngest daughter of General Burnett, the general officer commanding; a daughter of Major Windle; and Captain Tyler, R.A., have died from the disease. According to a correspondent of the *Times of India* one of the worst and most significant signs of the progress of the disease has been the invasion of the Queen's Gardens, the "West-end" of Poona, by rats. The number of dead rats found there in the houses, stables, and servants' quarters has been very large. We all know what this portends, for rats are very susceptible indeed of plague. There does not seem to be any doubt, moreover, that plague is a rat-borne disease. Although these animals may not by any means be the exclusive cause of the spread of plague it is nevertheless a well-attested fact, as urged by Dr. Patrick Manson and others, that the rat is attacked by plague before the disease appears in epidemic form in a human community. This did not escape the observation (nor did the inference to be practically drawn from it) of old Hindu writers in India and elsewhere, and it has been corroborated by more recent observations during visitations of plague in China, India, and other places. The systematic extermination of rats may consequently be regarded as an important precautionary sanitary measure in this disease.

From Hong-Kong a telegram of Oct. 23rd from the Governor to the Colonial Office reported only "one case of

plague and one death last week." The great event in the recent sanitary history of Hong-Kong has been the declaration of the principal civil medical officer on Sept. 20th at the meeting of the Sanitary Board that "we may take it that plague is now endemic in the colony." The Government has done nothing, however, to prevent the overbuilding which is allowed to proceed unchecked.

Plague has practically ceased in Egypt; there were only three cases at Alexandria during the month of September and no case has appeared there since Oct. 1st. The Marquis of Salisbury has received a despatch from Viscount Cromer, dated Oct. 12th, on the subject of the plague at Alexandria and enclosing a report from Sir John Rogers, the late head of the sanitary department. In the opinion of the latter official "all fears of a winter epidemic may now be dismissed, though isolated cases may occur." With this view Lord Cromer concurs and in a telegram dated Oct. 22nd he adds that Alexandria had been free from fresh cases for three weeks. The manner in which the sanitary officials have dealt with this outbreak is highly commendable. The first case occurred in May and altogether 92 cases were discovered. 45 of these patients died. With the exception of two cases at Damanhoor, 40 miles to the south, all occurred at Alexandria. Not a single case was heard of at Cairo or in Upper Egypt. Nothing could be more creditable. The last time the plague effected an entrance into Egypt in 1834 the victims were to be numbered by the thousand.

The last weekly returns from Oporto showed 29 fresh cases and eight deaths, bringing up the total numbers since the outbreak of the disease to 209 cases and 72 deaths.

There has been an outbreak of plague in Brazil. According to the earlier telegraphic information from Rio de Janeiro great doubts were expressed locally, however, as to the veritable nature of the disease. A telegram from Rio de Janeiro on Oct 22nd stated that the total number of cases of plague at Santos amounted to five suspicious cases, including two fatal ones. The authorities, both Federal and State, have taken the most stringent measures to localise the outbreak. The local physicians at the time attributed the reported cases to adenitis, which is frequent at this season of the year. The Sao Paulo authorities, however, believed in the existence of the plague, and the presence of bubonic plague was officially admitted. A telegram from Rio de Janeiro of Oct. 30th states that the hospital at Santos has 11 cases of plague, of which nine are of a mild character. From Oct. 17th to the present date there have been five deaths from the disease. The report that the disease has broken out at Sao Paulo is contradicted.

A telegram was received at the Colonial Office from the Mauritius to the effect that for the week ending Oct. 19th there were 89 fresh cases of plague, 57 fatal, with a total plague death-rate of 72 during the week.

THE ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY FOR SCOTLAND.

THIS report is now before us and covers the year 1898. At the beginning of the present year there were 15,399 lunatics in Scotland under official cognisance, and of these 13,006 were maintained out of parochial rates and 48 at the expense of the State. The general results regarding the insane in Scotland during the year 1898 as compared with 1897 were as follows. There was a total increase of 487 registered lunatics, of whom 438 were paupers and 49 were private patients. The average annual increase in the number of pauper patients in the five years 1891–95 was 194, and it will be seen in comparison with this that the increase during the past year has risen enormously above the average annual increment for the previous quinquenniad. Examining the increase carefully, and with reference to the various counties, it is found that most of the counties show a rise in numbers of the insane. Fife contributes an increment of 27, Ayr of 34, and Aberdeen of 54, while Edinburgh contributes 65 and Lanark the exceptionally large number of 95. It is instructive to follow the increase of lunacy in Argyll as pointed out in the report. In 1861 the number of its pauper lunatics in proportion to the general population was much the same as for the rest of Scotland. "Since that year," say the Commissioners, "the proportion has, with hardly a pause, risen steadily and so rapidly that it has more than doubled the number of its patients in the asylum since 1876, and notwithstanding the great rise of numbers in other counties it now stands (in regard to the proportion of its asylum lunatics to population) much beyond any county in Scotland." Attempts at explanation have been made, but allowing for all circumstances the conclusion appears to be certain that a considerable and actual increase of insanity is taking place.

The discharges present no feature of special interest or importance. The number of cases discharged as "recovered" during the year amounted to 1293 for pauper patients and 69 for private patients. The total recoveries—private and pauper patients inclusive—thus amounted to 9·24 per cent. of the average number of patients resident during the year, which number was 14,735.

The total percentage of deaths calculated on the same basis amounted to 7·34 per cent. of the average annual population.

The Commissioners draw attention in grave terms to the overcrowding which prevails in many asylums, and among those referred to are the Royal Asylums at Aberdeen, Edinburgh, and Montrose, and the Banff District Asylum. They also advert to the system of night nursing and supervision of patients, both suicidal and non-suicidal, in regard to which there is room for extension and improvement.

The subject of pulmonary tuberculosis in the asylum population, to which attention has already been directed in these columns,[1] is referred to in weighty words by the Commissioners. They point out the extreme liability of the insane to tuberculous disease and emphasise the fact that "the conditions of asylum life, especially in institutions which are overcrowded, are in themselves likely in a high degree to originate and to spread such disease, ... that patients should be placed in special wards and every precaution taken to prevent the risk of disease being spread through sputum, &c., ... and that the authorities of asylums should take every means in their power to ensure that the milk supplied to the patients is wholesome and produced under healthy conditions, whether it is derived from cattle kept on asylum farms or is obtained from sources external to the asylum."

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary meeting of the Comitia was held on Oct. 26th, Dr. WILLIAM SELBY CHURCH, President, being in the chair.

The following gentlemen were admitted Members of the College:—Edward Farquhar Buzzard, M.A., M.B. Oxon.; William Herbert Davis, M.A., M.B. Oxon., L.R.C.P. Lond.; Thomas Frederick Gardner, L.R.C.P. Lond.; Daniel West Samways, M.A., M.D. Cantab., L.R.C.P. Lond.; Robert Sevestre, M.A., M.D. Cantab., L.R.C.P. Lond.; and Edward Stainer, M.A., M.B. Oxon.

Licences were granted to 122 gentlemen who had passed the required examinations.

Communications were received from: 1. Mr. Edward Trimmer reporting certain proceedings of the Council of the Royal College of Surgeons of England. 2. From Dr. J. F. Payne offering to the College a medal, cast to celebrate the presentation of a bust of Morgagni to St. Thomas's Hospital by a committee of Italian physicians chiefly resident in Milan. On one side of the medal is a representation of the head of Morgagni and on the reverse a suitable inscription. 3. From Dr. Payne resigning his place on the Laboratory Committee in consequence of his having been elected Harveian Librarian. 4. From the University of London Commission acknowledging the receipt of a communication from the College.

The audited accounts for the year ending Sept. 29th last were received and adopted, as was also the quarterly report of the Finance Committee. In connexion with these reports Dr. THEODORE WILLIAMS announced his intention of presenting £1000 to the Endowment Fund of the College.—The PRESIDENT thanked Dr. Williams in the name of the College

[1] THE LANCET, July 15th, 1899, p. 167.

for his most generous gift and hinted that others might be induced to take a like action.

A report was received from Dr. Radcliffe Crocker on the International Conference on the Prevention of Venereal Diseases, held at Brussels in September last.—The PRESIDENT thanked Dr. Crocker for having represented the College.

Dr. W. S. Church was re-elected a representative of the College on the Council of University College, Bristol.

A report was received from the Committee of Management dated Oct. 9th. Amongst other matters dealt with it was announced that the committee recommend that the Rochdale Municipal Technical School be added to the list of institutions recognised by the Board as a place of instruction in chemistry, physics, and practical chemistry. Dr. Edward Liveing who retired by rotation from the committee was re-elected on the motion of Dr. NORMAN MOORE, seconded by Dr. VIVIAN POORE.

The SENIOR CENSOR (Dr. PYE-SMITH) proposed, and the REGISTRAR (Dr. LIVEING) seconded, that Dr. W. D. Halliburton be re-elected a member of the Laboratories Committee.

This was agreed to.

The REGISTRAR moved for the second time that By-law 163 be altered so as to read as follows:—

The fee to be paid for admission as a Member of the College shall be 40 guineas except when the candidate for the Membership is a Licentiate of the College, in which case the fee already paid for the Licence shall be deducted from the 40 guineas.

This was seconded by the SENIOR CENSOR and adopted.

The quarterly report of the examiners for the Licence was received and adopted.

After some further formal business the PRESIDENT dissolved the Comitia.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6545 births and 4623 deaths were registered during the week ending Oct. 28th. The annual rate of mortality in these towns, which had been 18·6 and 19·0 per 1000 in the two preceding weeks, further rose last week to 21·1, and was identical with the death-rate in London, and with the mean rate in the 32 provincial towns. The lowest death-rates in these towns were 10·1 in Cardiff, 12·7 in Croydon and in Derby, 13·4 in Norwich, and 14·0 in Plymouth. The highest rates were 24·8 in Salford, 27·3 in Sheffield, 27·7 in Liverpool, and 29·7 in Bristol. The 4623 deaths in these towns included 487 which were referred to the principal zymotic diseases, against 436 and 457 in the two preceding weeks; of these, 130 resulted from diphtheria, 98 from measles. 93 from "fever" (principally enteric), 89 from diarrhœa, 37 from whooping-cough, 36 from scarlet fever, and four from small-pox. The lowest death-rates from these diseases were recorded in Plymouth, Cardiff, Derby, Preston, and Halifax; and the highest rates in Portsmouth, Swansea, Birkenhead, Salford, Sheffield, and Hull. The greatest mortality from measles occurred in Nottingham, Birkenhead, Salford, and Sheffield; from scarlet fever in Burnley; from whooping cough in Gateshead; from "fever" in Nottingham, Sheffield, and Sunderland; and from diarrhœa in Bristol, Wolverhampton, Liverpool, Manchester, Salford, and Gateshead. The 130 deaths from diphtheria included 58 in London, 13 in Sheffield, seven in Leeds, six in Portsmouth, six in Swansea, and six in Birmingham. Four fatal cases of small-pox were registered last week in Hull, but not one in any other of the 33 large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Oct. 28th, was 3504, against 3003, 3217, and 3408 at the end of the three preceding weeks; 414 new cases were admitted during the week, against 461, 455, and 447 in the three preceding weeks Influenza was certified as the primary cause of 18 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 133 to 306 in the five preceding weeks, further rose last week to 478, and were 160 above the corrected average. The causes of 56, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Manchester, Salford, Bradford, Leeds, and in 12 other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·1 and 17·3 per 1000 in the two preceding weeks, rose again to 17·9 during the week ending Oct. 28th, but was 3·2 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 10·8 in Leith and 13·5 in Perth to 18·8 in Greenock and 20·3 in Glasgow. The 546 deaths in these towns included 27 which were referred to diarrhœa, nine to measles, eight to diphtheria, eight to "fever," six to scarlet fever, and one to whooping-cough. In all, 59 deaths resulted from these principal zymotic diseases, against 75 and 63 in the two preceding weeks. These 59 deaths were equal to an annual rate of 1·9 per 1000, which was 0·3 below the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had decreased from 193 to 26 in the seven preceding weeks, rose again last week to 27, of which 13 occurred in Glasgow, four in Edinburgh, three in Dundee, and three in Paisley. The deaths from measles, which had been 15 and 13 in the two preceding weeks, further declined to nine last week and included eight in Glasgow. The fatal cases of diphtheria, which had been three and four in the two preceding weeks, further rose last week to eight, of which three were recorded in Edinburgh, two in Glasgow, and two in Greenock. The deaths referred to different forms of "fever," which had been nine and 13 in the two preceding weeks, declined again to eight last week, and included four in Glasgow and two in Dundee. The six fatal cases of scarlet fever corresponded with the number in each of the two preceding weeks, and included three in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 102 and 84 in the two preceding weeks, rose again to 108 last week, but were 11 below the number in the corresponding period of last year. The causes of 20, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·6 and 37·3 per 1000 in the two preceding weeks, declined again to 36·4 during the week ending Oct. 28th. During the past four weeks the death-rate in the city has averaged 34·1 per 1000, the rate during the same period being 19·0 in London and 17·7 in Edinburgh. The 244 deaths registered in Dublin during the week under notice were six below the number in the preceding week, and included 63 which were referred to the principal zymotic diseases, against 68 and 64 in the two preceding weeks; of these, 44 resulted from measles, nine from diarrhœa, seven from "fever," two from diphtheria, one from scarlet fever, and not one either from small-pox or whooping-cough. These 63 deaths were equal to an annual rate of 9·4 per 1000, the zymotic death-rate during the same period being 2·0 in London and 1·6 in Edinburgh. The deaths resulting from measles, which had been 44 and 52 in the two preceding weeks, declined again last week to 44. The fatal cases of diarrhœa, which had decreased from 27 to four in the four preceding weeks, rose again to nine last week. The deaths referred to different forms of fever, which had been seven and four in the two preceding weeks, rose again last week to seven. The mortality both from measles and from scarlet fever corresponded with that in the preceding week. The 244 deaths in Dublin last week included 45 of infants under one year of age and 55 of persons aged upwards of 60 years; the deaths of infants exceeded the numbers recorded in the preceding week, while those of elderly persons showed a decline. Nine inquest cases and eight deaths from violence were registered; and 79, or nearly a third, of the deaths occurred in public institutions. The causes of 13, or more than 5 per cent. of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon John S. Lambert to the *Excellent*. Staff Surgeons: P. E. Maitland to the *St. George;* C. Strickland to the *Juno;*

J W. Slaughter to the *Cambrian;* W. W. Pryn to the *Minerva;* J. A. Moon to the *Arethusa;* J. C. F. Whicher to the *Monarch* for the *Penelope;* and G. F. Wales to the *Melampus*. Surgeons: L. Kilroy to the *Boscawen* for the *Minotaur;* Henry C. Whiteside to the *Magpie;* W J. Codrington to the *St George;* W. H. Pope to the *Juno;* J W. Bird to the *Minerva;* A W. B. Livesay to the *Thunderer;* T. T. Jeans to the *Doris;* and E R. Grazebrook to the *Impregnable*.

ROYAL ARMY MEDICAL CORPS.

Surgeon-General T. F. O'Dwyer acts as Principal Medical Officer on the Staff of Lieutenant-General Kelly-Kenny, C B., who commands at Aldershot in the absence of Sir Redvers Buller, V.C., G.C.B., K C.M.G. Major E V. A. Phipps proceeds to Aldershot for field service with the 10th Hussars Lieutenant N. N. G Rattray has arrived at Colchester for temporary duty. Captain T B. Beach has left Woolwich. Lieutenant H. N Nicholls assumes medical charge of the Royal Artillery and details, Marlborough Lines. Surgeon-Major E J. Hunter, A M.R., is appointed to the medical charge of troops, Gosport Barracks and Surgeon-Major E. T. Crouch, A.M.R., to the medical charge of the troops at Forts Gomer and Grange and Browndown Camp. Lieutenant-Colonel B B Connolly (retired) assumes charge of the Auxiliary Hospital and duties of Sanitary Officer, Woolwich Garrison. Captain Lewis will be transferred to the Home Establishment with effect from Dec. 18th next. Captain R Fawssett is appointed Medical Officer to the composite squadron of Household Cavalry for service in South Africa.

The undermentioned appointments are made to the Staff of the Lines of Communication in South Africa:—Colonel W F. Stevenson to be Principal Medical Officer; Major G. H. Sylvester to be Medical Officer. The undermentioned appointments are made to the Staff of the Natal Field Force in South Africa: Lieutenant-Colonel R. Exham to be Principal Medical Officer; Major J. F. Bateson to be Medical Officer. 4th Division: Lieutenant-Colonel S H. Carter to be Senior Medical Officer.—*London Gazette.*

VOLUNTEER OFFICERS' DECORATION.

The Queen has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force:—*Scottish District: Rifle:* The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel Charles Watson MacGillivray. The Glasgow Companies Volunteer Medical Staff Corps: Surgeon-Captain George Thomas Beatson.

TRANSVAAL WAR NOTES.

The tender sympathy of the Queen is once more made manifest by her action in directing that suitable articles of clothing for the use of the wounded on arrival from South Africa should be sent to Netley Hospital.

Rumours of the disregard of the ethics of war as recognised by all civilised nations have been circulated about the Boers, but in the absence of confirmation it behoves us to suspend judgment on a foe who in other ways has proved himself worthy of our steel. In the meantime we are glad to hear on the authority of a telegram to the *Times*, that Major J. F. Donegan, R.A.M.C., Principal Medical Officer at Glencoe, has telegraphed his thanks to the State Secretary at Pretoria on behalf of British officers and men in hospital for the extreme kindness shown by both Boer officers and men.

We think that the Secretary of State for War and the military authorities are to be congratulated on having exercised a wise discretion in causing it to be known that every facility will be afforded to such officers, non-commissioned officers, and men as may desire to avail themselves of the inoculation method of protection against attacks of enteric fever Since this method of prophylactic treatment was first originated by Professor Wright of Netley it has been experimentally tried with such an amount of success as to warrant, at any rate, it being pursued on a larger scale. Professor Wright has not only been carrying out his method at home but in India also, where, as everyone knows, enteric fever is so widely prevalent among our European troops as to amount to a scourge. Enteric fever so commonly occurs among troops on field service everywhere, and our experience of it in South Africa has been such that it is highly desirable that no probable safeguard that can be taken should be neglected.

A NEW TREATMENT FOR PHIMOSIS.

Starting with the theory that phimosis is solely due to "atrelia of the preputial mucous membrane," the elastic cutaneous covering being in no wise blameable, a French naval surgeon, Dr. Isambert, has been led to devise a new method of treatment, which is described in the *Archives de Médecine Navale* for September by a brother officer, Dr. Donnart. In order to keep the mobile organ under control the operator attaches three Péan's forceps equidistantly round the prepuce, in the free margin of which he then makes three minute notches with a pair of scissors. Next, inserting the sharp blade of the instrument into each notch successively, he divides the mucous membrane longitudinally as far as the balano-preputial furrow, taking care to avoid injury to the skin, the loose cellular tissue between the two structures rendering this a comparatively easy matter. Free dilatation of the constricting envelope is thus made feasible and the glans penis can be readily liberated. The prepuce having been retracted sutures should be applied where necessary, and a liberal allowance of iodoform gauze having been laid on the process is complete. Before commencing the operation Dr. Isambert washes out the sub-preputial space with an antiseptic solution, and he also secures anæsthesia by means of cocaine injections. In the opinion of the reporter the whole procedure leaves nothing to be desired. The loss of blood is insignificant, the natural protector of the gland is preserved, and cicatrisation takes place so rapidly that the patient's loss of service is reduced to a minimum. For the first few days the iodoform dressing should be renewed frequently, if possible after each micturition.

DEATHS IN THE SERVICES.

Fleet Surgeon Michael Joseph McCarthy (retired), on Oct. 24th, at Torquay, aged 45. He entered the service in 1877, was made staff surgeon in 1889, fleet surgeon in 1898, and retired in the following year. As surgeon to the *Carysfort* he served with the Royal Marine Battalion during the operations in the Eastern Soudan, 1884 (Egyptian medal, Khedive's bronze star).

GREENWICH HOSPITAL PENSION.

The Lords Commissioners of the Admiralty have awarded the Greenwich Hospital Pension of £50 a year, rendered vacant in consequence of the death of Fleet Surgeon Robert Willcox, R.N., to Deputy Inspector-General of Hospitals and Fleets Henry Harkan, R N.

Correspondence.

"Audi alteram partem."

"INFANT FOODS AND SCURVY RICKETS."

To the Editors of THE LANCET.

SIRS,—The annotation on this subject in THE LANCET of Oct. 28th touches a point of great practical importance in view of the ever-increasing use of "artificial" foods as substitutes for the fresh milk of the mother or of the cow. These foods are said to be sterile and in all probability they are quite free from pathogenic microbes. Moreover, the best of them are chemically close imitations of human milk, those intended for quite young infants being free from starch, and they often appear highly digestible. And yet their exclusive use is attended with serious danger, as is shown by the above-mentioned annotation and by the following two cases which I saw in consultation. Both of the children were fed from birth on Allen and Hanburys' foods, of which there are three kinds, designed respectively for children under the age of three months, from three to six months, and from six months and upwards. No. 1 is stated to be made from "fresh cow's milk so modified as to present all the constituents of human milk in their true relative proportions."

Both patients were the children of well-to-do parents living under excellent sanitary conditions. The first (seen in 1897) was an infant, aged nine months, who until three weeks previously had been fed solely on these foods. The child had six teeth and had apparently thriven until nine weeks before I saw it. Then the right ankle began to swell, the child grew pale and had profuse night sweats. When seen the right leg from the ankle

to the knee was much swollen and extremely tender, with a large amount of extravasated blood pigment under the skin. The appearance was such as to suggest to one medical man who saw the patient that it was a case of sarcoma of the tibia. The limb was too tender to handle much, but it was soft and elastic and I felt no doubt of the existence of considerable periosteal hæmorrhage. There was also a blood extravasation in the left eyelid, which was swollen and purple. The gums were spongy but not actually bleeding. The child generally was extremely anæmic and sallow. The ends of the radii were thickened and the ribs showed beading. The diagnosis was made of scurvy rickets and a diet of fresh unboiled milk, raw meat-juice, a little mashed potato, and some lime-juice was ordered, with a small dose of iron as medicine. Immediate and rapid improvement resulted and the child has ever since been healthy.

The second patient, seen only a few weeks ago, was a child, twelve weeks old, who had been fed from birth on Food No. 1. Up to the age of eight or nine weeks she had flourished exceedingly, gaining in weight half a pound a week. Then she began to lose colour and flesh and when I saw her she was intensely anæmic, of the lemon-yellow colour of pernicious anæmia, thin, and in a state of utter exhaustion. There were no actual hæmorrhages, but the medical attendant and I both felt that this was an early stage of the same disease. The food was stopped and a mixture of milk, cream, water, and milk-sugar, directed to be surrounded by boiling water for five minutes only, given as the chief food; but an ounce of unboiled milk, suitably diluted, and half an ounce of raw meat juice were also ordered daily. The child is now doing well.

It is clear that chemical suitability, digestibility, and freedom from microbes are not the only essentials of a food, but that there is something in fresh food—call it the "anti-scorbutic" quality or what you will—which infants and adults alike need. The exclusive use of "artificial" foods and of milk sterilised by prolonged boiling is rather to be deprecated by the medical profession instead of being preached, as is the fashion, to a public already inclined to run wild over the microbe scare. Pasteurisation of milk, or (what is practically much easier in the ordinary household) heating the milk in a vessel surrounded by boiling water for ten minutes is probably sufficient to stop the danger of bacterial infection except in special circumstances, such as epidemic summer diarrhœa or typhoid fever or cholera epidemics.

It is much to be desired that firms of the high standing of Messrs. Allen and Hanburys, who have devoted so much care to the preparation of "infants' foods," should add to their value and diminish their danger by issuing with their tins a caution as to the need for the addition of some fresh food substance to the dietary.

I am, Sirs, yours faithfully,

Nottingham, Oct. 28th, 1899. W. B. RANSOM.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED, AND THE MEDICAL DEFENCE UNION, LIMITED.

To the Editors of THE LANCET.

SIRS,—I am directed by the Council of the Medical Protection Society to make to you the following statement. The usual monthly meeting of the Council of the society was held this afternoon at its office at 12, New-court, Lincoln's-inn. 60 candidates were elected members of the society. £400 were set aside for investment in augmentation of the reserve fund of the society, which now amounts to £1061. The total outstanding claims against the society are under £50. On August 10th, 1899, a letter was sent by the Council of the Protection Society to the Council of the Medical Defence Union of which the following is a copy:—

Dear Dr. Bateman,—My Council by their unanimous vote have instructed me to inform you that it is considered that it would be of material public advantage if an amalgamation of your society with mine could be accomplished.

My Council are willing to leave the whole terms upon which amalgamation shall be carried out to an arbitrator—say, a barrister of high standing approved of by both societies—or, failing agreement, by the President of the Incorporated Law Society.

The arbitrator to have placed before him the whole of the books of both societies, the lists of members, accounts; he to examine same and employ an accountant of his own selection for that purpose. The arbitrator then to prepare a scheme for amalgamation, each society undertaking to abide by and carry out the scheme recommended by the arbitrator and bearing equal share of the expenses.

I am, yours sincerely,
(Signed) HUGH WOODS.

A. G. Bateman, Esq., M.B., C.M., General Secretary, Medical Defence Union, Limited, 4, Trafalgar-square, W.C.

The reply to that communication was received from the Medical Defence Union on Sept. 26th last and was to-day read to the Council of the Protection Society. It was in these words:—

Dear Dr. Woods,—Your letter dated August 10th, 1899, was duly brought before the Council of the Medical Defence Union on Thursday last, a copy of it having previously been circulated to each member of the Council.

I am directed to inform you that the Council, having most carefully considered the proposals which your letter contains, regret they are unable to accede to the terms suggested.

I remain, yours truly,
A. GEORGE BATEMAN, Gen. Sec.

As you, Sirs, have expressed in THE LANCET a wise and practical interest in the amalgamation of these two societies, the Council of the Protection Society think it right that the facts concerning the last attempt to bring about this union, so widely desired by the medical profession, should be fully laid before you. You have in THE LANCET stated with regard to the negotiations carried on for the purpose of bringing about the amalgamation in 1896 a decided view concerning their breakdown.

In THE LANCET of July 25th, 1896, you say: "For our own part we find the view of the London and Counties Medical Protection Society sound and the objection raised by the Medical Defence Union trivial and not very logical." So much for that attempt at amalgamation. In making to the Medical Defence Union the suggestions contained in the letter quoted above the Protection Society was actuated solely by a desire to bring about the amalgamation by means absolutely fair to both societies and which would give no improper advantage to either society in the carrying out of the details of the proposed amalgamation.

I am, Sirs, yours faithfully,
HUGH WOODS, Hon. General Secretary.

Westbury, Hornsey-lane, Highgate, London, N., Oct. 31st, 1899.

THE ROYAL MINERAL WATER HOSPITAL, BATH.

To the Editors of THE LANCET.

SIRS,—The report on the sanitary condition of Bath published in THE LANCET of Oct. 14th contains an indictment against the management of the Royal Mineral Water Hospital so serious that the committee feel that they would not be justified in allowing it to pass unnoticed.

When the older part of the institution was erected, nearly 160 years since, it stood on what was then fairly open ground, in close proximity to the hot mineral springs, which were then, as now, in the very centre of the city. The city has grown and the hospital has to a certain extent been surrounded by shops and other buildings, to its partial disadvantage as regards ventilation and other sanitary requirements, but not to the extent your article would lead one to believe. Although endeavours have on several occasions been made to secure a more eligible position this cannot be obtained within the limits to which the mineral waters can be conveyed, and to demolish the present building and erect another on the same site would entail too great a sacrifice of space, as no doubt the corporation would require the front of the building to be set back several feet to bring it in line with the new block. Placed in this dilemma the committee during the current year have had under consideration the best means of improving the existing arrangements and some months ago called in an eminent sanitary authority from London who, on visiting the hospital, made a very complete and exhaustive examination of the buildings with regard to their ventilation, drainage, &c., and subsequently furnished a report containing several valuable recommendations. Plans of the proposed alterations have been already before him and approved. These when carried out will render the sanitary condition as good as the space will allow.

With regard to some of the details of your article, all of which it is impossible to take up in this letter, it must be remembered that this hospital is not an ordinary one for surgical and serious medical cases requiring the best sanitary and antiseptic kind of building which modern science can devise, but it is only for persons suffering from rheumatism

and hundred complaints who are otherwise in fairly good health. Very few patients are confined to their beds, but occupy during the day spacious and airy day-wards and in the summer sit out in the garden and in the recreation-room. Nevertheless, the committee have from time to time, on the recommendation or at the suggestion of the medical staff, altered and improved the sanitary conditions and the ventilation. The members of the weekly committee in rotation visit the hospital daily, converse with the patients, inquire into any complaints, and three times a week inspect the meat and other supplies, also from time to time see the meals served up and taste them. The mortuary to which reference is made is very rarely in use, only three patients per annum having on an average died during the past ten years out of a total of upwards of 12,000 admitted. The old burial ground is apart from the hospital on the opposite side of the street. It was closed and covered over with a thick layer of concrete in the year 1849, or 50 years ago, and has not been used since.

In conclusion, the committee beg to state that the caution money is paid in and disposed of in strict accordance with the provisions of the Act of Parliament under which the hospital is incorporated; also that one medical man is (and until recently two were) on the committee and seven others are members of the board of governors (a controlling body) which meets every quarter to receive the report of the weekly committee.

I am, Sirs, yours faithfully,
T. VAUGHTON DYMOCK, President.

Royal Mineral Water Hospital, Bath, Oct. 26th, 1899.

"CANCER IN WILD ANIMALS."

To the Editors of THE LANCET.

SIRS,—In offering a few additional remarks on this subject I do so in no controversial sense but because it is desirable that the attention of the profession should be directed to this aspect of the cancer question, which is an important one. It may interest your readers to know that the python to which reference is made in THE LANCET of Oct. 28th had lived in the menagerie of the London Zoological Gardens for 15 years before it died there. The poor thing can hardly be said to have passed its existence "in a state of nature." Just so is it with Goodhart's case of "cancer" of the pituitary body of an anubis baboon to which reference is made in my article. The bearer of this tumour, instead of delighting himself in his native wilds, was a well-known inmate of the Zoological Gardens, having the familiar *sobriquet* of "George." His tumour is described as "cancer," but it was probably one of those "mixed" tumours which commonly occur in human beings in this locality and are now generally recognised as sarcomatous. A few other instances of sarcomata in wild animals are cited in my article, but it is doubtful whether any of these animals lived "in a state of nature."

It has always seemed to me probable that cancerous and sarcomatous tumours may very exceptionally occur in wild animals, and the fact that no duly authenticated cases of the kind have been recorded is very remarkable, especially when we remember how obvious growths of this kind usually are in large *feræ naturæ*. It is just the same with regard to human savages and we have no definite evidence that malignant neoplasms ever occur in them. Hence in my article in the "Twentieth Century Practice" I wrote (p. 302): "In a state of nature these abnormalities hardly ever occur. It is exclusively among domesticated varieties or those that have been kept long in confinement that they are not met with." I am, Sirs, yours faithfully,

Clifton, Oct. 28th, 1899. W. ROGERS WILLIAMS.

*** Mr. Williams leaves the question where it was. He considers absence of evidence to constitute a negative proof. Our reviewer thinks otherwise.—ED. L.

THE POSITION OF ARMY MEDICAL OFFICERS WHO HAVE RESIGNED ON GRATUITY.

To the Editors of THE LANCET.

SIRS,—The War Office, although asking employers of reserve men to find them employment on their return to civil life, treat those army medical officers who, like myself, had to resign on a gratuity very differently. These officers for the past nine years have been on the effective list of the army "liable to recall to service," and therefore eligible and suitable in every respect. Not one, however, has ever been employed, several having applied. In the Royal Warrant there is nothing as to liability to "recall to service" for officers resigning on a gratuity, the medical officers being the only ones of H.M. Navy or Army so liable. In a great emergency like the present surely these officers should have the preference to civilians, who are paid £270, whereas the army officer gets £150, a saving of £120. If not employed why are they still liable to recall up to 55 years of age, and their certificates still retained at the office?

I am, Sirs, yours faithfully,
H. G. GARDNER, M.Ch., C.M. Edin.,
Surgeon-Major, Army Medical Staff.

Norris-street, S.W., Oct. 24th, 1899.

"CAMBRIDGE AS A MEDICAL SCHOOL."

To the Editors of THE LANCET.

SIRS,—Your correspondent has misunderstood me if he infers from words of mine that Cambridge tends to "specialise her teaching and her examinations." The whole drift of my address surely was to contrast the specialism of technical schools with the breadth of a university. As to our examinations it is true that these, as regards the subjects we teach, must follow the lines of our own teaching. There is no greater misfortune for a teacher than to have to adapt his courses and methods to foreign examinations over which he and his colleagues have no control. As regards clinical medicine and surgery we have to examine, no doubt, in subjects which we do not teach, but we endeavour, by appointing some outside examiners and by keeping in touch ourselves with metropolitan schools, to work in harmony with them. I am, Sirs, yours faithfully,

Cambridge, Oct. 29th, 1899. T. CLIFFORD ALLBUTT.

"THE PREVENTION OF ALCOHOLISM."

To the Editors of THE LANCET.

SIRS,—I am obliged for Dr. Reid's precepts on "good form," though the very expression sets one's teeth on edge. He asks two straightforward questions: 1. Whether I dispute the fact that the subject of heredity is not included in the medical curriculum. It is not—luckily. To burden the already over-loaded student with a subject so gigantic would be sheer barbarity. Moreover, the study of heredity would appear to stifle the growth of common sense. 2. Whether I will deal with the statement "that if artificial selection be impracticable, then the only alternative is natural selection, in which case every scheme for the promotion of temperance which depends on the abolition or diminution of the alcoholic supply is in effect a scheme for the promotion of ultimate drunkenness." Dr. Reid would saddle me with the task of confounding this thesis. In my former letter I made no attempt to controvert any of his scientific theories or facts. Had I the ability I have not the desire. Dr. Reid is willing on second thoughts to concede the point (for the sake of argument, by-the-bye) and that his "proposals about artificial selection are absurd." That contents me. His interests lie "in the scientific rather than the legislative aspect of the question," mine in practical result rather than unprofitable argument. The object of my letter to THE LANCET of Oct. 21st was, *pace* Dr. H. Laing Gordon, to lay as bare as possible the wild extravagance of the notion "that the sexual functions of a drunkard are to be controlled by a bench of magistrates" and to emphasise the dangers that the trial of such a system would engender. It is deplorable that so fantastic a proposition should have been made by a man who, as all his readers must learn from internal evidence, is a specialist in his subject. One would naturally suppose that the object of such an article as "The Temperance Fallacy" might be to serve some useful purpose. One now finds, on the contrary, that the writer's intention was but to deliver a sermon barren of any result save the enlightenment of a benighted profession concerning a matter merely controversial; that he is pleased to deem the realm of practical politics of small account compared with the bogey of science for science' sake; and that he is by no means disconcerted when the culminating effect reached through the application of his deductions to gross actualities is to land him in a folly.

I am, Sirs, yours faithfully,

Oct. 29th, 1899. SIDNEY VINES.

THE INFECTIOUS DISEASES (NOTIFICATION) EXTENSION ACT: THE EXEMPTION OF HUDDERSFIELD.

To the Editors of THE LANCET.

SIRS,—I note in THE LANCET of Oct. 28th an annotation upon the Infectious Diseases (Notification) Extension Act in which you state that the County Borough of Huddersfield is the only place exempt from the provisions of this Act. You appear somewhat to deplore this exemption, with which I quite agree in so far as it makes the whole of the large towns not upon the same basis. The further reason you allege that you think the Huddersfield Act is less efficient I cannot endorse, and shall be pleased to hear from you in what points you think our local Act is less efficient than this general Act will prove to be, for it was distinctly upon the grounds of greater efficiency among other things that my council claimed this exemption.

I am, Sirs, yours faithfully,

Health Office, Huddersfield, Oct. 31st, 1899. E. G. ANNIS.

*** Our comment as to the less efficient character of the Act in question as compared with the general Act had reference to the limitation in Section 64 of the Huddersfield Act to the effect that "only one such certificate need be given ..... within an interval of 30 days ..... in respect of the same disease occurring in the same building." Such a limited provision obviously renders the system of notification less efficient than the corresponding one of the general Act which requires all cases of infectious disease to be notified. Sanitary authorities should possess an accurate record year by year of all cases of infectious diseases in their district, and not merely a record of such cases in the same building—whether a tenemented one or not—as happen to have from two to thirty days' priority over the remainder.—ED. L.

THE DENTAL PROFESSION AND THE NATIONAL TELEPHONE COMPANY.

To the Editors of THE LANCET.

SIRS,—Some weeks ago I called the attention of the National Telephone Company to their apparent injustice towards the dental as compared with the medical profession in not letting the members of the former have the use of the telephone on the same terms as those of the latter. Since then the board has had the matter under consideration and I am now pleased to inform my *confrères* that I had a letter from the district manager stating that the company will be pleased to make the same concessions to the dental that they have made to the medical profession—i.e., £10 per annum for the use of the telephone.

I am, Sirs, yours faithfully,

Edgware-road, W., Oct. 28th, 1899. HENRY C. CARTER.

INTRA-PERITONEAL HÆMATOCELE: THE OLDER AND NEWER STATISTICS CONTRASTED.

To the Editors of THE LANCET.

SIRS,—I should like to express my acknowledgments for the kind and appreciative review of my recent book on "Extra-uterine Pregnancy" which occurs in THE LANCET of Oct. 28th. The only adverse criticism is a very fair one and one, too, which I will bear in mind and carefully consider in any future writing on the subject. At the same time I should like to point out that the reason adduced by the reviewer for considering that I take too serious a view of intra-peritoneal hæmatocele (the result of extra-uterine pregnancy) is one which hardly justifies any very different conclusion to my own.

The reason advanced by the reviewer is that many cases of intra-peritoneal hæmatocele were diagnosed in the past in which recovery followed without operation. Many of the older surgeons and gynæcologists were undoubtedly quite as careful observers as ourselves, but they had not our present advantages, and there can be no doubt, I think, that over and over again hæmatocele was diagnosed when no hæmatocele existed and that cases were supposed to be due to this affection when they were in reality suffering from other diseases. I would instance particularly that a sudden attack of salpingitis, the tumour of which slowly disappeared after rest in bed, was considered throughout as a blood effusion which underwent gradual absorption.

I am, Sirs, yours faithfully,

JOHN W. TAYLOR.

Newhall-street, Birmingham, Oct. 31st, 1899.

THE WORKING OF THE NEW VACCINATION ACT.

To the Editors of THE LANCET.

SIRS,—The new Vaccination Act has now been in force nearly a year and it is quite possible to form an idea of its working. I propose to deal only with the question of its action as regards public vaccinators. I find the methods of working and of remuneration both unsatisfactory. For a fee of 1*s.* one has to write and post a notice and to call to offer vaccination. The payment is bad enough, but this hawking about of public vaccination by men supposed to belong to a learned profession is worse. The profession ought to denounce, and public vaccinators to refuse to submit to, this unprofessional canvassing.

It can easily be ascertained what children require vaccinating by the public vaccinator and a list should be sent to him of those cases in which his services are required. I consider this point essential to the retention of office and that it ought to be at once insisted on. I hope for the powerful aid of the medical press in this matter and I believe that if it be properly and forcibly brought to the notice of the Government the grievance, which affects not only public vaccinators but all general practitioners, will be remedied.

With regard to remuneration I complain chiefly of the system of payment by results. In arm-to-arm vaccination the failures were comparatively few. The fee now depends on the reliability of the calf lymph supplied. It is manifestly unfair that an operation should be done for nothing because inefficient lymph is supplied by the Local Government Board. This matter is of some importance, but it is insignificant in comparison with the ethical point on which I have striven to insist above. It is on that point mainly I ask for your valuable assistance in an effort to wipe out a stain of reproach which will accompany the office of public vaccinator as long as the present undesirable state of things continues.

I am, Sirs, yours faithfully,

Oct. 31st, 1899. A PUBLIC VACCINATOR.

CHARING CROSS HOSPITAL.—The annual dinner of the past and present students of Charing Cross Hospital Medical School was held at the Hotel Cecil on Oct. 31st, when Dr. Frederick Osmund Stedman, a former student at the school, occupied the chair. In proposing the toast of the "Staff of the Hospital and School" the chairman referred to the advances he had noted since he had left the institution for work in Hong-Kong. It was obvious on all sides that the policy of the staff was a progressive one. In acknowledging the toast Mr. J. H. Morgan referred to the *esprit de corps* which prevailed amongst Charing Cross men. He congratulated them upon the institution of the Huxley Lecture and on securing the services of so great a pathologist as Virchow to open the session last year. He dwelt with pride upon the equipment of the school and especially upon the improvements in the museum which were largely due to Dr. W. Hunter. It had recently been decided to have an ophthalmic surgical department and they hoped soon to institute arrangements for the study of mental diseases. He felt it a satisfactory testimony to the efficacy of the school that amongst the new men joining some were the sons of old students. Mr. H. F. Waterhouse proposed the toast of "Past and Present Students" and stated that several of the old students were serving as surgeons in the present war. Dr. W. C. Bosanquet replied for past students and Mr. Eric Bailey for present students. The toast of "The Chairman" was proposed by Mr. Stanley Boyd. The first song on the list was "Tommy Atkins," which was sung by Dr. F. W. Mott, and this suggested a collection being made for the widows and families of the soldiers engaged in the Transvaal war. Ultimately it was announced that the collection had amounted to £20, which it was proposed should be sent to the *Daily Telegraph* shilling fund.

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 1196.)

Coventry:—The Fight against the Provident Dispensary.—Condemnation of the Dispensary at Edinburgh and Portsmouth by the British Medical Association.—Growth and Success of the Coventry Medical Public Service.—The National Medical Aid Company, Limited.

FOR some years now the majority of the medical practitioners of Coventry have been engaged in an ardent struggle against the Coventry Provident Dispensary. The causes of this dispute were fully described under the heading of "The Battle of the Clubs" in articles published in these columns on June 12th and 19th, 1897. The Coventry Provident Dispensary is one of the oldest and largest institutions of the kind in the kingdom. In 1892, when the population of Coventry amounted to only 52,000, it is said to have had 26,000 members, and even to-day the membership exceeds 20,000. The complaint was that the Dispensary had created a monopoly of medical practice and that the monopolists were insufficiently paid and that gross abuse prevailed. After the failure of various attempts to reform the Dispensary a "Public Medical Service" was organised by the union of the Coventry practitioners in opposition to the Dispensary. This medical service was founded on the now well-recognised principles that should govern such organisations. The management is exclusively in the hands of the medical profession, there is no lay committee and no monopoly. All resident and fully-qualified practitioners can join, a wage limit is enforced, and the net profits are divided among the medical officers except a small sum held back to make up a reserve fund, which, however, is the property of the medical men by whose work it has been created. The subscribing members pay 1*d.* per week, and out of this sum 1*s.* per annum per head is given to the druggists who supply the medicine. No touting or advertising is allowed. Thus all the grievances associated with provident dispensaries were abolished. Apart from the Coventry Provident Dispensary the medical profession had also to contend against the National Medical Aid Company, Limited, together with various friendly societies and clubs. When in June, 1897, we published a full account of all these grievances the Ethical Committee of the Birmingham and Midland Counties Branch of the British Medical Association was also investigating the subject. Their report appeared in the journal of the British Medical Association on July 17th, 1897. It fully confirmed the grievances which we had previously described by recognising that there was no wage limit, that abuse prevailed, that the dispensary staff refused to consult with other medical men of the town on dispensary cases, that the staff was in the hands of a lay committee, that the Dispensary touted for members and exploited the medical profession for gain, that the rule by which the medical staff should receive two-thirds of the members' subscriptions was not observed, and that in 1893 the Dispensary had been able to invest £500. As a consequence of this state of affairs the *British Medical Journal* has refused to insert any advertisement sent by the Coventry Provident Dispensary. Of course, THE LANCET has likewise refused such advertisements as also has the *Medical Press and Circular*. But perhaps the most conclusive document that can be quoted against the Coventry Provident Dispensary is a memorial drawn up by the Dispensary medical staff itself and presented to the Dispensary committee of management in November, 1896. A copy of this memorial was sent by the union of the medical practitioners of Coventry to the President and Council of the Royal College of Surgeons of England. This was done because at an ordinary Council meeting held on Dec. 9th, 1897, it was decided that the Council of the Royal College of Surgeons of England would be willing to consider evidence in regard to this question. Thus it was sought to condemn the medical staff of the Coventry Provident Dispensary from the evidence which they themselves had given. The following are some of the most conclusive passages of this memorial:—

"The chief of these abuses are the following: admission of members whose pecuniary position makes them quite able to pay ordinary fees to medical men, reduction of members' payments to too small a sum, exclusion of medical men from the management of the institute, the formation of these societies by laymen who pay only a portion of the moneys received from the members to the medical staff after the working expenses have been paid and pocket a handsome profit yearly which ought to belong to the medical men, and lastly, the canvassing of members who often are other medical men's patients by collectors and others." ..... "There are points in the construction and management of our institution which the heads and authorities of our profession most emphatically condemn and it is the existence of these which has rendered our position so serious and unbearable." ..... "There is no definition of the class for whom the institution is intended nor any wage limit defined which shall indicate that class." After quoting some of the rules the memorial goes on to say: "All this shows that the institution was founded originally and intended for the working classes, and there was no difficulty then in carrying out this intention."

The memorial goes on to complain that the rules had of late years been altered so that "people who do not belong to the working classes" are able to become members, and adds: "We are of opinion that the rule referring to children—viz., 1*d.* a week for three children and 3*d.* for any number under 12 years of age—is altogether inadequate." ..... "Bear in mind, also, that even this small sum does not all go to the doctors; the share for working expenses and drugs has to be deducted, which leaves the doctors less than two-thirds of the amount." Another question is the affiliation of clubs to the Dispensary. The payment is insufficient and the memorialists say: "We think that 3*s.* per member per year is too small a sum." The memorialists then go on to say: "The third point is with regard to the management and representation of the staff on the committee. Our authorities have laid down the following. *The British Medical Journal* says: 'All the medical officers should be members of the executive when their number would not exceed that of the rest of the committee, as their interest in the institution is as great as that of the members, who are presumably represented by the lay committee.' THE LANCET goes further and says: 'The management of the institution should be in the hands of the staff.' We therefore ask that the whole staff be *ex-officio* members of the committee and we would remind you that for many years after the foundation of this institution this was the rule."

From the above quotations it will be seen that the medical officers in the employ of the Coventry Provident Dispensary fully recognised the grievances which we and others denounced; but if they had the energy to protest they had not the courage to take effective action, and are now striving to tone down their own complaints and to make out that things are not so bad as they seem. Nor did the Royal College of Surgeons of England, after studying the memorial, from which the above quotations are made, give any help. On the contrary, at the meeting of its Council held on April 14th, 1898, the following resolution was adopted:—

> That the petitioners be informed that the resolution to which they refer as having been adopted by the Council on the 9th December, 1897, was not confirmed by the Council at their following meeting on the 12th January, 1898, inasmuch as the Council upon further consideration were of opinion that they had no power under the Charters and By-laws to deal with the social and economical questions involved therein.

Other efforts, however, were made in different directions. The report issued by the Ethical Committee of the Birmingham Branch of the British Medical Association was forwarded to the general or central Ethical Committee of that Association and a correspondence ensued. The medical staff of the Coventry Provident Dispensary also wrote; and as by that time they were already engaged in toning down their complaints for fear presumably of compromising their position the two statements did not agree. The union of the Coventry practitioners asked if the British Medical Association would receive a deputation to discuss in detail the whole question. Dr. Saundby replied on behalf of the British Medical Association and he put forward the views held by the medical staff of the Coventry Provident Dispensary asking for the further elucidation of certain points. A statement was drawn up by the secretary of the Coventry Public Medical Service and forwarded in June, 1898. This was just before the annual meeting of the British Medical Association, which was held at Edinburgh. In his statement the secretary of the Coventry Public Medical Service argued that, if the Coventry Provident Dispensary was really intended only for working men, it was strange that no protest had been made at the last annual meeting of that institution. The chairman on that occasion had expressly

declared that the managing committee of the Dispensary did not wish to restrict membership. The alteration which had been introduced into the wording of the rule governing the admission of subscribing members had only been made to please the General Medical Council. He interpreted the terms used describing those who were to be admitted as meaning "such as themselves," and this was a class including cycle manufacturers, stockbrokers, contractors, and men of independent means. Some of the members of the committee managing the Dispensary may be thus described. The committee, it is true, said they would submit the lists of candidates for membership to the medical staff, but no power was given to the medical staff by which they could exclude any unsuitable candidate. Also, this rule had no retrospective action and as it only applied to new members it could not affect existing abuses. Also, it was urged that many of the members belonged to the Oddfellows and other such friendly societies; but, even when this is the case, it does not apply to their wives and families. Then the very connexion between the Coventry Provident Dispensary and the friendly societies is in itself denounced as a great abuse. The Dispensary contracts to provide medical aid to members of friendly societies for 3*s.* per annum per member and therefore undersells the medical practitioners of the town. Thus the medical men fear to attempt any reform in regard to the friendly societies because in reply the latter threaten to go over to the Dispensary. Or even if such club or friendly society should be dissolved most of its former members would be likely to be absorbed by the Dispensary.

As a consequence of the agitation two out of the six members of the Dispensary medical staff have been admitted on the committee of management of that institution, but the staff had demanded that they should all be admitted, so this was but a partial concession. The medical staff have complained that the attacks made against them, and notably those published in THE LANCET, were not correct. They say that the medical officers of the Public Medical Service are not any better off than those who are in the service of the Dispensary because they only net 2*s.* 6*d.* a year per subscribing member. If this is the case, why is the Coventry Provident Dispensary now afraid to publish any record of the number of its members? They used to do so and then it was shown that the medical officers of the Dispensary only received from 1*s.* 1*d.* to 1*s.* 4*d.* per annum per member on their lists. At this rate the medical officers of the Coventry Public Medical Service are much better paid, though their object is not higher payment but the prevention of abuse and of monopoly. Such was the position of affairs when the matter was discussed at the Edinburgh meeting of the British Medical Association, with the result that the following resolution was adopted:—

> That after a prolonged and careful inquiry the Council of the British Medical Association is of opinion that the members of the Coventry Provident Dispensary are continuing a system of medical relief which is incompatible with the best interests of the profession and hurtful to their professional brethren practising in the neighbourhood.

Of course, a copy of this resolution was forwarded to all the medical officers of the Coventry Provident Dispensary and in November, 1898, the matter was brought before the notice of the General Medical Council. It was referred to a committee, but so far there has been no result. The next important step was taken at the last annual meeting of the British Medical Association held at Portsmouth, when Mr. George Jackson made the following motion:—

> That the Council be requested to inquire from the medical staff of the Coventry Provident Dispensary why they continue to give their services to this institution.

Dr. Saundby said he was well acquainted with the details of the controversy and that if the medical officers of the Coventry Provident Dispensary were to resign there were many other men ready to take their places. Dr. Price urged that as the members of the Dispensary staff were of good standing their conduct was all the more blameworthy. A young, unknown, and struggling practitioner might be more easily forgiven. The motion was carried unanimously. Nevertheless, the general impression at Coventry is that the Dispensary staff will not resign and they are said to be encouraged in this resistance by several Birmingham consultants. The latter receive 10 guineas and sometimes 20 guineas as consultation fees and this is paid even by some of the Coventry Provident Dispensary patients, thus proving that the latter could well afford to pay ordinary fees instead of 1*d.* per week. As the Dispensary medical officers refuse to consult with local medical men the Birmingham consultants get all the work. But the matter is going to be brought up again next year when the British Medical Association will meet at Ipswich. The only concession that the Coventry Provident Dispensary has made is the admission of two medical men on the committee of management and the raising of the subscription for children to a halfpenny per week each. Another rule has been altered which tends to aggravate the monopoly grievance. Formerly, when the amount of subscriptions paid enabled members of the medical staff to receive more than £350 a year a rule stipulated that the number of medical officers should be increased. Now this increase will only be effected if the sum received exceeds £400 a year. The argument, on the contrary, is that when the payments effected are so very small the number of patients to provide a considerable income must be so large that the medical officer cannot possibly find time to attend to them properly. This is, therefore, not merely an economical question, but it also concerns the preservation of public health. No medical practitioner should be allowed to have on his list more than a limited number of poor patients.

Failing to reform the Coventry Provident Dispensary the majority of the medical practitioners in the town formed, as we have seen, a rival and model institution denominated the Coventry Public Medical Service. The number of subscribers to this institution has steadily increased, in spite of the wage limit restricting its action to the poor. Those who are better off go to the Dispensary. During the quarter ending July 31st, 1897, the number of subscribers amounted to 7666, and on July 31st, 1899, the membership had increased to 8444. 22 local practitioners are united together to promote this institution and to defend the ethical and economical interests of the profession. 12 of them are active medical officers of the Public Medical Service. There are also 12 dispensing chemists enrolled, so that the subscribers have a choice of 12 medical men and of 12 chemists. The total amount of subscriptions collected during the quarter ending July 31st last amounted to £463 15*s.* 10*d.* This is equal to an income of £1800 a year. There are two collectors employed and they receive a small fixed salary and a commission on the amounts collected. For the last quarter the medical officers received 8*d.* per member, which is equal to 2*s.* 8*d.* a year, and this after paying the druggists, the collectors, and working expenses. But a reserve fund of £100 has also been created and both last year and this year 15 guineas were spent to send delegates to the meetings of the British Medical Association at Edinburgh and Portsmouth and of the Incorporated Medical Practitioners' Association at London. That the Coventry Public Medical Service is now established on a sound financial basis is proved by the fact that two practitioners have advantageously sold their interest in this service. The first was sold for one year's purchase and the buyer obtained an increase instead of a decrease in the number of members on his list. As, according to the rule, members cannot change their medical attendant more than once a quarter the new-comer has time to make acquaintance with the members on the list of his predecessor. As the first sale effected proved so successful the second realised just double the proportionate amount—namely, two years' purchase. It will be seen, therefore, that there is no reason why medical men should not organise all such contract work as may be necessary to meet the requirements of the poor. Yet there is at Coventry, not only the Provident Dispensary managed by a lay committee, but there is also the National Medical Aid Company, Limited, which is a purely commercial undertaking. The local practitioners engaged by this company gave in their resignations a long time ago and the company then imported a medical man from the outside. But when the General Medical Council passed a resolution condemning this sort of practice the medical officer imported by the National Medical Aid Company began to see the error of his ways, and finally, some three months ago, he resigned. He had, however, succeeded in the interval in building up a private practice. The National Medical Aid Company have now had to import another medical officer. Nothing was known of his coming so it was not possible to remonstrate with him and attempt to prevent him from accepting this post. But perhaps, in the course of time, he will, like his predecessor, find it impossible to continue doing a class of work which has been condemned by the General Medical Council and by the profession at large. In conclusion, the medical practitioners of Coventry who are united and are fighting this economical

battle may well be congratulated on their steadfastness of purpose and faithful adherence to their principles.

MEDICAL REFORM IN EAST YORK AND NORTH LINCOLN: THE MEETING AT HULL.

A joint meeting of the East York and North Lincoln Branch of the British Medical Association and the Hull Medical Society was held on Oct. 20th at the Royal Infirmary, Hull, to which all members of the medical profession residing within a radius of 30 miles were invited. A deputation from the Corporate and Medical Reform Association, Limited, was received, consisting of Dr. T. W. Hime, President of, and special delegate from, the Bradford and West Riding Medical Union; Mr. Clark Newton, President of, and special delegate from, the Newcastle Medical Ethical Society; and Mr. R. B. Anderson. The object of the meeting was to discuss and concert measures to resist the registration of midwives, as contemplated in the various Midwives Bills already before the profession, as well as to emphasise the necessity for medical reform in certain directions

The following motion, proposed by Dr. E HARRISON and seconded by Mr. E. P. HARDEY, was carried without a dissentient vote:—

That we, the members of the medical profession in East Yorkshire and North Lincolnshire, view with grave concern and alarm the attempts to create an inferior order of practitioners as contemplated in the Midwives Bills already drafted, and we are of opinion that the passing into law of any such Bill can only be disastrous to the welfare of the general public and will still further open the door to all sorts of irresponsible medical practice.

Dr. HIME then proposed the two following motions which were seconded by Mr. A. G. FRANCIS, and also carried unanimously:—

1. That on the grounds set forth in the memorials of the Corporate and Medical Reform Association, Limited, and on the following resolution of the General Medical Council in reply thereto of June 9th, 1899—

"That as regards the issue of certificates in midwifery referred to in the memorials the Council is of opinion that, as the Midwives Bill is now before Parliament, it should at present refrain from taking any action.

"As regards the certificates granted to spectacle-makers the Council exercises no jurisdiction over such opticians, but will be prepared to consider any properly substantiated charge of improper conduct made against a registered medical practitioner with reference to this subject"—

This meeting, in the first place, condemns as illegal the action of the General Medical Council in framing the certificates of the London Obstetrical Society and in sanctioning these and other certificates in midwifery which are now a precedent for the certification of opticians and others in breach of the Medical Acts; and, secondly, calls upon the Council to rescind such sanction and place itself in a position to deal judicially and on like principles with charges that may be brought before it for covering midwives or opticians, and upon the President of the Council to retire from connexion with the London Obstetrical Society so long as that society issues such certificates.

2. That this meeting repudiates as inconsistent alike with the public safety and the rights of the medical profession conferred by the Medical Acts the General Medical Council's "recommendations" to the Privy Council on the subject of registration of midwives, by which it is proposed that, contrary to the Medical Acts, and in repeal thereof, medical attendance on poor women in so-called normal labour is to be entrusted to persons not medically educated as the law, for the safety of the people, now requires.

Mr. NEWTON gave an account of the action in the direction of medical reform which had already been taken by the members of the medical profession in the northern counties. He advocated the necessity for general union on progressive lines and concluded by moving:—

(A) That whereas the General Medical Council has:—

1. Contrary to the Medical Acts recognised the certification of unqualified practitioners as competent in branches of medical practice (midwives and, by inference, opticians);

2. Recommended to the Privy Council provisions to legalise the practice of midwifery by persons not medically educated;

3. In 1897 and 1899 rejected applications to recommend to the Privy Council an increase in the number of Direct Representatives;

4. In 1897, wilfully and contrary to the express provisions of the Medical Acts, maintained its illegal form of return of its corporate members, thus conspiring to deprive constituents of certain corporations of the right to choose their corporate members of the Council; and has, in 1897, refused to take part in securing any of the reforms of the Council and the Medical Acts urgently necessary in the interest of the public and the medical profession:—

This meeting now declares that in the above specific respects, as well as in its present constitution, the General Medical Council does not represent the medical profession or provide for the public interest and ought to be reconstituted and re-formed by an amending Medical Act.

(B) That an amending Medical Act ought *inter alia* to provide:—

1. That the Direct Representatives be increased to a numerical majority of the Council and returned by districts.

2. That the corporate members be elected by the medical constituencies of the corporations and that the corporations contribute rateably to the funds of the Council.

3. That if represented thereon the Crown contribute rateably to the funds of the Council.

4. That the disciplinary powers of the Council be extended to censure and suspension and to cognisance of unethical conduct.

5. That provisions be included for the better prevention of fraud and crime by illicit practice and for better protection of life and health on constitutional lines.

6. That criminal prosecutions be transferred to the police and that in this and other respects the Council, as an advising and supervening body, be brought into more direct relation to the department of public health.

The motions were seconded by Dr. A. PARKIN and carried.

Mr. R. B. ANDERSON gave a *résumé* of the work of the Corporate and Medical Reform Association, Limited, and concluded by moving that copies of the foregoing resolutions should be forwarded

to the Members of the Cabinet, Members of Parliament for the district, Direct Representatives of the medical profession on the General Medical Council, the Council of the British Medical Association, all the branches of the Association in Great Britain and Ireland, medical societies in London and the provinces, and the leading medical papers requesting their support and active coöperation.

This motion was carried unanimously.

The following motions were then proposed and carried unanimously:—

1. That this meeting learns with regret that the Council of the British Medical Association, Medical Defence Union, London and Counties' Medical Protection Society, and Incorporated Medical Practitioners' Association have not seen their way to accede to applications to bring charges of covering against medical practitioners for certifying midwives or opticians as competent in branches of medical practice, and invites them individually or collectively to bring such charges.

2. That members of these two societies are by this meeting earnestly invited to join the Corporate and Medical Reform Association and support its policy, and that medical residents in this district who have not yet done so are invited to join these two societies and the Corporate and Medical Reform Association, Limited, and thus take immediate and practical concerted action in the mutual interests of the profession and the public.

3. That a sub-committee, consisting of Dr. Harrison, Dr. A. Parkin, Dr. Waters, and Dr. Francis, be appointed to carry out the resolutions and to invite the Direct Representatives to address a meeting of the profession on their way to, or return from, Newcastle.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT)

Poor law Guardians in Conference.

THE twenty-fifth annual meeting of the North-western Poor-law Conference was commenced on Oct. 28th at the Manchester Town-hall. Sir John Hibbert, the President, in his opening address spoke of the great progress that had been made in the last 25 years in the administration of the Poor-law in the counties of Lancashire and Cheshire. He laid stress on the fact that with prosperous trade the country had also a drink bill last year of £150,000,000, and "where they had that vast amount of money spent on drink they must have pauperism." The number of paupers on Jan. 1st of this year was 821,096, a decrease of 1·9 per cent. only on the number for 1898 and not a satisfactory state of things. "In the matter of lunacy he was sorry to say the figures were still going up." The asylums of the two counties were full and the one now being built "would, he was told, be full the moment it was completed." With regard to old-age pensions, "he had not seen any proposal which he did not think would do more harm than good." A paper was read by Mr. S. T. Lunt, chairman of the West Derby Board, on the Treatment of Tuberculosis by Poor-law Guardians, which reads as if they were assuming medical functions. He urged the provision of sanatoria, summing up the requisites as (1) the buildings to be well arranged, with a south aspect; (2) a dry, pure, well-drained subsoil; (3) pure atmosphere and abundance of sunlight; (4) a large garden or grounds well protected from wind; (5) sheltered verandahs facing the sun; and (6) proper supervision." Dr. Rhodes said that "with the exception of the administrative counties of London and Northumberland Lancashire was the worst county in all England, and Manchester, Salford, and Liverpool the blackest spots in this very black county." Out of 587 deaths in the Withington Workhouse 136 were from phthisis. Mr. Jenner Fust, the Poor-law inspector, advocated a system of cottages to hold from four or five to 10 patients rather than the placing of a number of patients together in a large ward. The discussion was continued by many speakers, and in closing it the chairman said with regard to air and ventilation, what every medical man knows well, that "the working classes did not care for fresh air." Our schools, whether "Board" or "Denominational," may help

the coming generation to some knowledge as to this matter, and perhaps set a better example—if architects will make it possible—than some of them do at present. A paper was also read in the afternoon by Mr. Jolley of Warrington on the difficult subject of "Differentiation in the Treatment of the In-door Cases." Mr. Rooke, chairman of the Manchester Board of Guardians, introduced a discussion on old-age pensions which showed so much difference of opinion that though the question may be ripe for discussion it is as yet apparently far from ripe for action.

Salford Royal Hospital.

The report of the Salford Hospital read at the annual meeting held on Oct. 25th related the too-frequent story of increasing work with lessening means. At the hospital, with its branch dispensary at Pendleton, 27,971 patients were treated. The District Provident Society "had investigated the circumstances of 12,363 applicants for medical relief and of these 363 were reported as being in a position to obtain medical relief through the district provident dispensaries or to pay for private medical attendance. The income for 1898 was £5447 and for 1899 £4906, while the deficit this year had increased from £1030 to £1874. The country is said to be in a state of almost unexampled prosperity, in which both Salford and Manchester largely participate, yet of the many thousands of well-to-do people in these large towns only 400 are on the list of subscribers to the Salford Hospital. The Ship Canal is held responsible for a large increase in the surgical work of the hospital owing to the rapid growth of population in the neighbourhood of the docks, while the removal of St. Mary's Hospital to the new site in Oxford-street is also expected to cause a large addition to its work.

Ancoats Hospital.

The report of the Ancoats Hospital, read at the recently held annual meeting showed that it does a very large amount of work. The number of accidents treated in the year was 8108, or 22·2 per diem. The convalescent home at Wilmslow is of great benefit to patients and a new accident and out-patient department in course of erection will extend its means of usefulness. Unfortunately there is the usual story of inadequate means, for subscriptions do not multiply as the work increases. Last year they amounted to a little over £817 and there was a balance due to the bank of £643. But hospital committees in Manchester have great courage, and when things look bad they sometimes receive substantial help from a bazaar.

Sewage Disposal at Swinton.

It is interesting, as showing the convergence of opinion in favour of the bacterial purification of sewage, to notice that Sir Henry Roscoe has recommended that system for adoption at Swinton. The scheme, of which the estimated cost is £21,000, was accepted the other day by the Swinton and Pendlebury District Council and will be submitted to the Local Government Board for their approval.

A Story told at a Gorton Inquest.

The following story is suggestive of the difficulties that lie before those who seek to raise the "residuum" from the depths to which too many have sunk. An inquest was held by Mr. Price, the county coroner, on Oct. 20th, at Gorton, on the body of a male infant, stillborn, the child of a van-driver whose wife was delivered on Oct. 16th. On the 18th the body was put in a box and taken by two women to the Brookfield Church to be buried. A shilling was given to them to defray expenses. On the way they stopped at several public-houses and got drunk. But after a time they got to the church, and one of them called "at the lodge" with the child in the box, but "the master was not in" and they were to call again. So they went to a public-house and spent most of the shilling they had had to pay for the child's burial. Then they went down to Gore brook and put the box under an arch and afterwards told the mother that the body had been buried; but a woman saw these latter-day Mrs. Gamps go down to the brook, where one of them "took a box from under her arm and threw it into the brook under the arch." Mr. W. B. Rigby who made a post-mortem examination said the child was stillborn and "a verdict in accordance with the medical evidence was returned." It is a sordid and revolting little history but it illustrates fairly well the besotted and brutal callousness too common in our midst even to-day.

Oct. 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University General Council.

THE half-yearly meeting of the General Council of the University of Edinburgh was held on Oct. 27th in the examination hall of the University. Dr. Patrick Heron Watson and Dr. Joseph Bell were re-elected assessors in the University Court. The draft ordinance of the University Court for the separation of the teaching of the subjects of medical jurisprudence and public health arising from the recent founding of the chair of Public Health was submitted to the meeting and was approved. The report of the Business Committee referred to the loss which the committee had sustained by the death of Dr. John Duncan, who was for some time a representative of the Council in the Court, and who at all times took a deep interest in university affairs and especially in those relating to the medical profession. In moving the adoption of the report of the Business Committee Mr. J. Campbell Lorimer, the convener, suggested that the General Council should make a remit to the Business Committee which now filled the place of the former Ordinance Committee to consider and report upon matters falling under the educational ordinances. He referred to the rectorial elections as one subject which would probably fall under this remit. At the time when the date of these elections had been fixed for the first Saturday in November the session began in the end of October. Now, however, the session began about the middle of October, while the date of the elections remained unchanged with the result that the canvassing went on for about three weeks while a good many students were thus distracted from their work for the first three weeks of the session. He thought that the elections might be held on, say, the last Saturday in October, or about 10 days from the beginning of the session, as had been orginally intended. Sir Andrew Mure spoke on the question of the preliminary examinations as they applied to foreign students. He thought it absurd that the University should insist on foreign students passing the same preliminary examination as British students. He said that when in Edinburgh 10 or 12 years ago he saw far more Indians, coloured men, and Chinese attending the University than he did now, and he had no doubt that the preliminary examination had something to do with this falling away.

University College, Dundee.

From the annual report of the Council of University College, Dundee, which was issued on Oct. 24th, it appears that the work of the College has expanded in all departments. In three of the practical departments of the science school—chemistry, engineering, and physics—there had been a great strain on the resources of the laboratories during the past session and the Council had been brought face to face with the necessity for an extension of the buildings of the College if the efficiency of the teaching were to keep pace with the increase in the number of the students. At the commencement of the session work had been begun in five of the six departments instituted by ordinance for the full equipment of the Faculty of Medicine. The total debt of the College on July 31st amounted to £13,074, while £440 had been paid in interest last year. Of this debt £9000 had been incurred in providing permanent additions to the College property, and the Council appeals to friends of higher education to assist the College to remove the burden.

The Lord Rectorship of Aberdeen University.

The students of Aberdeen University have nominated Lord Strathcona and Mount-Royal and Sir Edward Grey, M.P., as candidates for the office of Lord Rector, in succession to the Marquis of Huntly, so that the next contest will b fought on political grounds.

Proposed Crematorium, Aberdeen.

The proposed clauses in the new Consolidation Bill have been dropped, no agreement having been come to as to a site for the suggested crematorium at Aberdeen.

Hospital Sunday in Aberdeen.

Funds to the extent of £1210 have been allocated from the Hospital Sunday Collection, the Aberdeen Royal Infirmary receiving £600 and other institutions less sums.

Oct. 31st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

THE death-rate of Dublin for the week—42·6—is appallingly high. There are 396 cases of measles in the city.

Royal Academy of Medicine in Ireland.

The annual meeting took place at the Royal College of Physicians of Ireland on Oct. 27th, when the following distinguished members of the medical profession were elected honorary Fellows of the Academy:—Sir J. Burdon Sanderson, Bart., M.D. Edin., F.R.S.; Professor Howard Kelly, Baltimore; Professor Koch, Berlin; Professor Kocher, Bern; Professor Th. Leber, Heidelberg; Sir W. MacCormac, Bart., K.C.V.O., London; Professor Martin, Berlin; Professor Nothnagel, Vienna; Professor Osler, Baltimore; and Sir W. Turner, M.B., F.R.S., Edinburgh.—At the same meeting the ballot for the election of the officers of the Academy took place. Mr. E. H. Bennett continues to hold the office of President, and there were no notable changes among the various officers and members of sections. The report of the Academy for the year 1898–99 has just appeared and contains an account of the meetings and proceedings in connexion with the establishment in Ireland of a branch of the National Society for the Prevention of Consumption and Other Forms of Tuberculosis.

Belfast Workhouse.

A special committee of the Belfast Board of Guardians report that almost every department of the workhouse is overcrowded, a natural outcome of the increase in population of the city. They believe that the early removal of the lunatics would for a time give great relief to the infirmary, but that, failing this, the immediate erection of new buildings is imperative to meet present requirements and future contingencies. The committee also recommend that immediate steps be taken for enlarging the Nurses' Home and for providing accommodation for 30 more nurses. It would appear that there are from 300 to 400 patients in the house more than there is accommodation for. At present there are 1816 sick. For this number 85 nurses are employed.

Small-pox in Belfast.

As I reported in THE LANCET of Oct. 14th three cases of small-pox occurred in Belfast. Up to Oct. 27th two more cases had been received into the Union Fever Hospital, and two more cases have since been taken to that institution.

The Royal Hospital, Belfast.

Mr. Robert Campbell has been appointed surgical registrar and Dr. H. J. Monypeny assistant to the gynæcologist. Dr. Thomas Houston, the retiring gynæcological assistant, who holds the studentship in pathology of the Royal University, at the late examinations gained the gold medal (the only one awarded) at the M.D. examination of the Royal University.

St. John Ambulance Association, Belfast.

At the annual meeting of this association, held on Oct. 30th, it was reported that 10 classes were held during the year, attended by 235 pupils, of whom 91 received certificates. Since the Belfast centre was formed in 1886 223 classes have been held, attended by 6138 pupils; 1156 men received first-aid certificates and 85 gained the medallion of the association; 954 women obtained first-aid certificates, 485 receiving nursing certificates, and 119 got medallions. The association is doing special service to Belfast in the admirable training given to the men of the Fire Brigade who manage the city ambulance.

The Cork Medical and Surgical Association.

The annual dinner of the Cork Medical and Surgical Association was held at the Imperial Hotel on the evening of Oct. 28th. A number of lay guests were present at the invitation of members of the association. Owing to the unavoidable absence of the president the chair was occupied by Professor Corby, who was supported by, among others, Sir John Neligan, Recorder of Cork, and Dr. Dixon, Professor of Chemistry, Queen's College, Cork. The first toast was "The Queen" and in proposing it the chairman referred to the extraordinary advances made in medical science all the world over since Her Majesty came to the throne. The next toast was "The Cork Medical and Surgical Society." It was responded to by Dr. Nathaniel Hobart, the oldest member of the society, who spoke of the long career of usefulness of the society and dwelt on its advantage to members of the profession and through them to the public of Cork. The toast of "The Legal Profession" was responded to by the Recorder and by Mr. George Crosbie, B.L. The Recorder, in a very able and humorous speech, said that there was one difficulty against which members of both professions—law and medicine—had to contend and that was the rooted objection of the public to fall into the hands of either. The toast of "The South of Ireland Branch of the British Medical Association" was responded to by Colonel Moriarty, R.A.M.C. (retired), President of the branch. In the course of his speech he said that though the association had done much for the profession there was still scope for more energy in defending the rights of the profession. The toast of "The Cork School of Medicine" was responded to by Professor Hartog and Professor Pearson. In the course of his reply Professor Pearson mentioned that at the recent final examinations for medical degrees at the Royal University seven candidates were recommended for further examination for honours. Six presented themselves. Five out of the six gradually withdrew. One persevered to the end and was awarded second-class honours. He was Mr. Lapsley, a young gentleman who had studied in Cork and nowhere else. The toast of "The Army and Navy Medical Services" was responded to by Colonel Moriarty. In the course of an eloquent speech he said he was sure that former Cork students now engaged as members of the Royal Army Medical Corps in South Africa would, as they had always done, exhibit care and consideration in their treatment of the wounded. In the intervals between the toasts songs were sung and all agreed that the evening was a very enjoyable one.

The Death of General Sir W. P. Symons at Dundee.

It is stated in the Dublin papers, and doubtless with truth, that Dr. Kendal Franks, who was formerly vice-president of the Royal College of Surgeons in Ireland, and who has recently settled at Johannesburg, was the surgeon specially chosen to do anything that could possibly be done for the gallant General Symons. The bullet was extracted successfully, but it is probable that the injury was of a character almost necessarily fatal.

Nov. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Resection of the Perineal Nerve for Painful Cystitis.

AT the meeting of the Association of Urology held on Oct. 20th M. Rochet read a paper on the above subject. Certain patients, he said, who suffer from urethro-cystitis accompanied by pain and difficulty in micturition are incapable of deriving any benefit from the various treatments tried. In certain particularly painful forms a cutting operation has been tried, but the benefit only lasts so long as the wound is unhealed. The burning and smarting pains from which these patients suffer are accompanied as a rule by spasms and an urgent and frequent desire to urinate. Micturition, however, is prevented by spasms of the perineal and peri-urethral muscles. In three cases of this kind M. Rochet has met with great success by resecting the perineal branch of the internal pudic nerve on both sides. As this nerve supplies all the perineal muscles, both superficial and deep, its section does away with the spasm while the pain and tenesmus disappear. The operation is quite harmless, but possibly somewhat delicate to perform. The internal pudic nerve is cut down upon as it passes out by the small sacro-sciatic notch, where it divides into the perineal branch and the dorsal nerve of the penis. The operator divides the former and leaves the latter alone (*on respectera*). This method opens a new way of treatment in case of painful cystitis of the neck of the bladder, and offers a last and most valuable resource in those cases where a perineal section has done no good or where the pains return after the fistula has been allowed to heal.

The Army Medical Corps Manœuvres.

The manœuvres for this year, which have been held in

the neighbourhood of Paris, have been particularly interesting and have been attended by a large number of civilian medical men who would be attached to the colours in time of war (*médecins de réserve*). Great progress has been made in the drill and instruction of the stretcher-bearers and material for field hospitals and ambulance tents is excellent both in quality and quantity. The "tortoise tents," so called because the carriage which supports the canvas is in the centre of the improvised structure, have been of the greatest use owing to the facility with which they can be pitched and struck. On the day of the manœuvres, in which the "general idea" included the carrying of wounded and the organisation of medical aid during a battle, a disused boarding-school served to accommodate the field hospital. 100 cots were put up in the dormitories, the offices and general sitting-room were quickly fitted up as operation-rooms, huge cooking vessels were set up in the kitchen and in the courtyard and served to prepare food for 350 men, including wounded, bearers, cavalry of the escort, and others. During the night manœuvres were carried out and the wounded were sought for by the light of electric lamps. For carrying wounded men from the field of battle vehicles are more and more being given up for the reason that it is often difficult to drive them across the fields and bad roads. The tendency is evidently towards conveyance on litters to the ambulances. The last day was spent in entraining wounded men and ambulance hospital appliances in a hospital train, and the journey to the railway station, in order to give more probability to the proceedings, was made in vehicles hired in the neighbouring villages, they being for the most part carts filled with straw. To these were added some artillery *fourgons* covered with a cart tilt, in which litters carrying wounded men were placed in three tiers supported by the Bry-Ameline suspension apparatus. The train supplied by the Chemin du Fer du Nord had been made up intentionally of carriages of all possible types. The apparatus employed allowed six wounded men lying on hand-barrows to be placed in each goods truck without being exposed to concussion or jolting. The director of the manœuvres and his officers themselves lay on the hand-barrows like wounded privates in order to obtain an idea of the jolting during the journey, and the driver of the train was directed to pull up sharply so that the carriages might bump. In the opinion of every one the suspension obtained by the Bry-Ameline apparatus was quite perfect.

Vaccination in the Colonies.

At a recent meeting of the Academy of Medicine Dr. Brouardel read a paper on some experiences of Dr. Loir, a medical man practising in Tunis. This paper included some most interesting details with regard to vaccination in that colony. Small-pox is extremely common there and very virulent in type, and only recently out of the 160,000 persons who make up the population of Tunis 1645 died in one small-pox epidemic. Medical men, therefore, are obliged to vaccinate and revaccinate as widely as they can, but owing to the climate there are many and great difficulties in the way of carrying out this method of prophylaxis, and these difficulties formed the chief subject of Dr. Loir's report. It is a fact that exposure to a high temperature destroys the efficacy of vaccine and hence it has been found that vaccine sent out from France to her colonies during the summer is often inert even when it has been carefully packed in ice. The few tubes which do arrive in an active condition are used for vaccinating calves which in their turn furnish a supply of active lymph. Dr. Loir suggests that the Academy of Medicine should cease sending out vaccine during the hot season, and that stations for the preparation of vaccine should be established in various parts of Tunisia, so that the colony would be independent of an outside supply.

Oct. 31st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Forthcoming Elections to the Medical Chambers.

PREPARATIONS are now going on for the elections to the medical chambers, which take place at the end of the year. This time the elections are especially important because of the new courts of honour which must consist of members of the chambers. Moreover, the relations between the sick clubs and the profession, another question to which no small interest attaches, will probably be taken into consideration without much delay, so it is not surprising that much attention is being already devoted to the business of the elections. In Berlin there are three great combinations capable of influencing the results. The first consists of the members of the so-called Standesvereine, professional societies existing in every district in Berlin. In the Standesvereine every practitioner of the district who is known as respectable may be received without ballot and independently of political, religious, or other reasons. The Standesvereine have a general council which consists of three delegates from every Verein and forms the executive committee of the association. Apart from the Standesvereine there are in nearly every district Aerztevereine, which differ from the former by the fact that membership can only be obtained by ballot, so that they are, in fact, private clubs. Medical men have even been blackballed in the Aerztevereine for reasons which had nothing to do with the respectability of the candidate and might be of a merely personal nature. The Aerztevereine have also councils similar to those of the Standesvereine. The third combination is the free-choice society, to which allusion has been made several times in previous numbers of THE LANCET. The aim of this society is to abolish the present system of appointing medical officers to sick clubs and to allow any medical man to attend the members, a salary being paid by the club to the society according to a fixed scale. The free-choice system is adopted as an electoral condition, not only by the last-mentioned society, but also by the Standesvereine, the difference being that the Standesvereine wish the free-choice system to be made obligatory by law, whilst the free-choice society prefers a free agreement between the clubs and the profession. The present chamber is composed of members of these two latter combinations, for the Aerztevereine having only a limited number of members, were unable to secure the election of their candidates at the last polling. It is not as yet possible to form an opinion as to the chances in favour of either of these combinations.

Myositis a Complication of Gonorrhœa.

Professor Eichhorst of Zürich has described in the *Deutsche Medicinische Wochenschrift* a case of gonorrhœa complicated by myositis. Muscular atrophy has been observed in several instances as a sequel of gonorrhœal arthritis or neuritis, especially by French authors, and cases of metastatic myositis in gonorrhœa observed by Councilman have been published in the *American Journal of the Medical Sciences*. Dr. Róna has seen inflammation of the femoral muscles in two cases of gonorrhœa, forming a large, painful infiltration on the anterior part of the femur; the affection was very persistent and only improved slowly under antiphlogistic treatment. Professor Eichhorst himself observed a similar case. A man, 56 years of age, was admitted on Jan. 29th into the Zürich Hospital for gonorrhœa and, in addition, severe pain in the right femur without at first any obvious morbid condition; but in course of time a solid infiltration developed on the external side of the femur about eight centimetres (three and a quarter inches) long and four centimetres (one and a half inches) wide. The skin over the growth was moveable; it was not hyperæmic, neither was its temperature raised, and there was no pyrexia. The pain persisted for about a week in a rather high degree and then disappeared. The infiltration, however, became more and more dense and diminished very slowly. On March 10th the patient was discharged from the hospital, the tumour being still five centimetres (two inches) in length. On Feb. 12th a slight arthritis of the right wrist-joint developed but disappeared within a few days. Professor Eichhorst characterises the above affection as gonorrhœal sclerosis of the muscles. He suggests that as it is not suppurative but indurative it may be caused not by staphylococci but by gonococci. Bacteriological examination of the muscles was of course not possible. He finally draws attention to the circumstance that in every instance hitherto observed it was the femoral muscles that were invaded.

Courts of Honour.

A Bill relative to courts of honour will be introduced in the Bavarian Diet and if it becomes law the medical profession of the three principal States of the empire—Prussia, Saxony, and Bavaria—will be under the jurisdiction of these

courts and undoubtedly the smaller States will also in course of time follow their example. The Bavarian Bill, however, differs from the Prussian law in several respects, as, for instance, in there being no public prosecutor, so that questions of professional conduct will be judged exclusively by medical men. The courts of honour will, moreover, be entitled to inquire into misdemeanours committed by medical officers of the Government service, the army included, and though they may not pronounce a verdict in those cases they may communicate the result of the inquiry to the Government which may punish the offender. Right of appeal is granted to the defendant only and not to the prosecutor, and the court of appeal will consist of members elected by the medical chambers and one learned judge. The Bill does not lay down a code of ethics but it is left to each medical chamber to do so. In Prussia the question of such a code has lately been discussed in the Berlin medical chamber. A committee of the chamber was charged with the preparation of a code and at the last meeting Dr. Davidson, in the name of the committee, made a report on the subject. The tenor of the code, which consists of only 12 articles, is that medical men are not allowed either to advertise or to give certificates to vendors of pharmaceutical preparations and other medical articles, or to join with unqualified persons, midwives, &c., to underbid their fellow-practitioners, or to canvass in an unprofessional way, or to criticise the treatment of other medical men before a non-medical audience, or to attend a fellow-practitioner's cases, or to assume the title of specialist without being entitled to do so, or to refuse to assist a fellow-practitioner in urgent cases, or to hire a house or a flat where a practitioner is already in residence without having previously made an arrangement with him, &c. The present chamber did not discuss the above proposals but allowed the matter to stand over for consideration by the chamber which will be its successor.

The Effect of Artillery-Firing on the Ear.

Some interesting investigations of the effects produced on the ears of artillerymen by the noise of the firing of cannon have been made by Dr. Müller. An article published by him in the *Archiv für Ohrenheilkunde* and quoted in the *Deutsche Medicinische Wochenschrift* states that in 52 artillerymen out of 96 no obvious alteration of the auditory organs could be discovered, whilst in the remaining 44 the membrana tympani was hyperæmic or even ecchymosed. These alterations occurred almost exclusively in ears which were weak at the outset; in these cases the auditory power decreased and the men made complaint of subjective sounds that were heard subsequently to the artillery practice. Dr. Müller found that men who only served for the legally prescribed period of two years were not permanently injured by the sound of cannon-firing, for the above-mentioned changes in the ear are generally recovered from after they leave the army. Artillery officers, however, and sergeants of long service not infrequently suffered from partial deafness and tinnitus aurium, and in these cases the tympanic membrane was observed to be indrawn and opaque. From this it follows that men in whom there is reason to suspect weakness of the auditory organs ought not to become artillerymen.

Oct. 31st.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of Swiss Medical Practitioners.

THE annual autumnal meeting of Swiss medical practitioners was held at Olten on Oct. 28th and was attended by about 250 medical men from all parts of Switzerland. Professor P. Müller of Bern spoke of the use of indiarubber gloves in gynæcological and obstetric practice, advocating their employment in private practice in urgent cases where the necessary time for proper disinfection is wanting, as well as when an examination is necessary soon after the medical man has come in contact with septic substances. The gloves should also be used if there are any doubtful scratches on the medical man's hands whereby a patient might be septically infected, and last, not least, to protect him against syphilitic or other infection. In clinical practice Professor Müller makes use of the gloves as an additional protection against infection. In the ensuing discussion it became evident that some surgeons, such as Dr. Brunner and Dr. Kroenlein, object to gloves as being a useless addition to complicated antiseptic methods, whereas Dr. Kocher of Bern uses disinfected gloves in operating on septic cases. Dr. Erni of Gersau, who has many phthisical cases under his care in small sanatoria on the south side of the Rigi spoke of the treatment of lung cavities by means of a sort of external massage with a silver instrument shaped like a paper-knife. He asserted that cavities are in this way emptied of their contents and kept cleared of septic matter and their healing promoted. His statistics not being very re-assuring Professor Sahli of Bern suggested that the good results obtained in some cases were principally due to climatic and other treatment. Dr. Haeberlin of Zürich spoke of the indications for the use of injections of saline solutions in cases of acute anæmia from hæmorrhage as well as in infectious and toxic conditions. He said that the treatment was successful in some cases and he showed a convenient small apparatus (price 12*s.*) which will no doubt for the practitioner replace the large and inconvenient apparatus now in use.

Operative Treatment of Hæmorrhagic Pachymeningitis.

Dr. Köhl of Coire presented a report on an important case of pachymeningitis hæmorrhagica interna of traumatic origin, where surgical interference was successful. A man, aged 42 years, had a severe fall in February, 1899, whilst sleighing and received a serious contusion on the left side of the head. The external wounds healed in a fortnight, but six weeks afterwards increasing headaches necessitated his giving up all work and he suffered also from vertigo. On May 20th he consulted Dr. Schnöller of Davos, who diagnosed abscess of the brain and recommended operative interference. During the following night the patient became comatose and was removed to the Davos Hospital. He recovered a little and gave evidence of left-side paralysis—the right side of the head being most sensitive. He could hardly stand, but fell over to the left side. There was incontinence of urine and fæces. Dr. Köhl made the diagnosis of hæmorrhage with pressure on brain tissue and trephined in the middle of the skull slightly in the frontal direction. About three ounces of dark blood escaped. A plug of iodoform gauze was introduced and was removed on the third day. After four weeks the wound was completely closed and the patient was discharged, having been well for some time and continuing so up to the present date. The operation is justified by the result of this case. Even though the hæmorrhage should recur the operative interference would at least have prolonged the patient's life and restored him to health for a time.

Zürich, Oct. 30th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The British-American Practitioner in Italy.

THE Prime Minister, General Pelloux, received on Oct. 24th a commission of presidents of the "Ordini Medici Italiani," headed by the professor of clinical surgery in the Roman University, the Senator Francesco Durante, and by the Hon. Felice Santini, sometime medical officer in the navy and now representing an urban constituency in the Chamber of Deputies—their object being to obtain from His Excellency a measure of State "to deprive medical practitioners of foreign nationality and holding merely foreign diplomas from practising their profession in the Italian kingdom." The Hon. Dr. Santini renews his attack on the foreign practitioner in general and the British-American practitioner in particular with better promise of success than has hitherto attended his efforts in this direction. He obtained from the Premier an assurance of His Excellency's "favourable consideration" for the object he has in view, accompanied by the supplementary "assurance" that he had sent to all the foreign Powers a circular asking them whether they would allow Italian practitioners possessing only native diplomas to practise in their respective countries. His Excellency added that the Hon. Dr. Santini must embody his views in a Bill, which should have the earliest consideration possible at the hands of the legislature. We are accordingly face to face with a renewed agitation for the boycotting of British-American practice in Italy and we have also an indication of the lines on which it will be justified—the demand for an international reciprocity in recognising medical qualifications which Dr. Santini very well knows the General Medical Council of Great Britain and Ireland cannot concede. The reciprocity

in question being formally withheld he will then proceed to obtain legislative sanction for the observance in Italy of the regulation which holds good in the British Isles and will compel the British practitioner either to qualify at an Italian school or to cease to practise on Italian soil.

The Tenth Congress of Internal Medicine.

It is impossible to keep pace with all the congresses, medical and surgical, which, from "the Alps to Etna," held their annual meetings in the month now closing. Of these the most important was that of Internal Medicine, which was opened on Oct. 25th in Rome with a brilliant discourse by its President, the Minister of Public Instruction, Dr. Baccelli. One of His Excellency's most loudly-applauded periods was that in which he maintained: "As the supreme goal of the statesman is the 'salus populi' and as the health of the people resolves itself into the health of the individual, so the clinical professor, practitioner, or consultant remains necessarily at the head of all the progress scientific and practical." From this position he drew deductions bearing on the responsibility of the clinician who, keeping necessarily in touch with the experimental school, must correct it by "the logic of practice," and who recognising the value of prophylactic medicine, must remind it of the conditions inevitably imposed by the "personal equation." The agenda paper illustrated once more the wisdom of economising the time and attention of the Congress—its business being confined to main topics selected at the previous Congress, studied during the recess, and "reported" on by two clinical professors also selected for this purpose. These topics were "Chlorosis: its Pathogenesis and Treatment" and the "Pathology of the Pancreas." In this way the Congress was able to give full consideration, with minds already charged with the subject, to at least two important themes, and after "threshing them out" under every aspect, theoretical and clinical, to reach something like a common ground of doctrine and practice. Not that other interesting topics were ignored. There was time for some useful discussion on "intossicamenti" (toxic lesions) and infective maladies. But these were the *hors d'œuvres* of the medical report, the *pièces de résistance* being the subjects already indicated. So that the tenth Italian Congress of Internal Medicine on its rising can point to a couple of monographs representing the latest mind of the profession on the problems dealt with—monographs embodied in the official "Atti" and forming a starting point for other schools to work upon and if possible to carry scientific and practical induction one or more steps nearer its goal.

Oct. 29th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Registration of Dentists.

A PHYSICIAN of Newport, in the State of Rhode Island, was indicted for having practised dentistry without first obtaining a certificate from the Board of Registration in Dentistry and for failing to have his name and place of business registered with the board. The defence was that at the time mentioned he was qualified to practise medicine and surgery by reason of a diploma in his possession from a reputable and legally chartered college endorsed by the Board of Health, and therefore he assumed that he had the right to practise medicine in all its branches, as also surgery, and upon any part of the human body, including teeth. The Supreme Court sustained this defence and concluded as follows: "It has always been the custom in this State, and probably everywhere else, for physicians to treat ailing teeth and to perform other professional services which technically come within the purview of dentistry. Physicians who reside in country towns especially have always been called upon to a greater or less extent for the performance of such services, and now to prohibit them from thus treating their patients would be a source of great inconvenience and in many cases of extreme hardship and suffering to the latter, as well as an interference with the proper and legitimate functions of the former."

The Negro's Record.

A recent writer gives the following summary of what the negro has accomplished to demonstrate his fitness for civilisation. He has reduced his illiteracy 45 per cent. in 35 years; negro children in the common schools number 1,500,000, negro students in higher institutions 40,000, negro teachers 30,000, negro students learning trades 20,000, negro students pursuing classical courses 1200, negro students pursuing scientific courses 1200, negro students pursuing business courses 1000, and negro graduates 17,000. There are 250,000 volumes in negro libraries, 156 institutions for the higher education of negroes, 500 negro physicians, 300 books written by negroes, 250 negro lawyers, three banks conducted by negroes, three magazines edited by negroes, and 400 newspapers under negro management. The value of their libraries is $500,000, their school property is worth $12,000,000, their church property is valued at $37,000 000, their farms, numbering about 130,000, are worth $400 000,000 (this does not include their homes, valued at $325,000,000), and their personal property is worth $165,000,000. Since the war the negro has raised $10,000,000 for his own education.

Restrictions on Tenement Houses.

A new law of New York provides as follows: No room or apartment in a tenement house or dwelling-house shall be used, except by the immediate members of the families living therein, for the manufacture of coats, vests, trousers, knee-breeches, overalls, cloaks, hats, caps, suspenders, jerseys, blouses, waists, waistbands, underwear, neckwear, furs, fur trimmings, fur garments, shirts, skirts, purses, feathers, artificial flowers, cigarettes, or cigars.

State School of Public Health.

The Council of the New York University at the last session of the legislature endeavoured to secure the passage of a Bill creating a school of public health. The university proposed to give the ground and buildings, valued at $100,000, on condition that the State would make an appropriation of $25,000 for equipment and $25,000 for expenses annually. The Bill failed to become a law. The council has now arranged, as a preliminary step, the establishment of a State school, special technical courses of instruction to be given for the benefit of health officers. The courses are planned to occupy about six weeks each and two or more of these courses can be taken at the same time. Two of these concern bacteriology, the elementary course consisting for the most part of practical exercises in the laboratory with an occasional informal lecture on the underlying principles and their application to the needs of health boards.

Oct. 20th.

RUSSIA.

(FROM A CORRESPONDENT.)

The Plague and the Eastern Frontier of Russia.

THE Russian Plague Commission from time to time publish figures of plague prevalence in all parts of the world. From the latest bulletins it appears that a sharp outbreak of the disease occurred in New-Chwang on the Gulf of Pechili in September. This port is apparently to be the terminus of the Manchurian branch of the Trans-Siberian Railway and fears are not unnaturally expressed that the disease may attack the coolies employed on the line and spread into the interior. Up to the present the cases have been almost exclusively confined to the Chinese, but already a few Russians have been attacked. Thus, in what is spoken of as the Russian quarter of Inkou (which appears to be the name of the port of New-Chwang) two Russians were attacked by the disease on Sept. 30th and one on Oct. 7th. Two out of these three cases proved fatal. In New-Chwang itself 530 deaths from plague occurred between Sept. 13th and 29th and 150 more between Sept. 30th and Oct. 6th. The first case in the Russian part of the town seems to have occurred on Sept. 23rd; a second Chinaman was attacked there on the 27th; then followed the cases among Russians already mentioned, besides three more cases among Chinamen, on Sept. 30th and Oct. 4th and 7th respectively. The Russian Government has announced its intention of putting in force restrictive measures along the Russo-Chinese frontier only if plague should break out at Girin (or Kirin), some 300 or 400 miles inland from New-Chwang. (The dates mentioned above have all been reduced to New Style.)

A Russian Burton.

The Holy Places of El Islam are no longer the objects of mystery that they were before the days of Burton's memorable pilgrimage. They are, however, still sufficiently jealously guarded by the fanaticism of the thousands who annually make their pilgrimage to them to render it extremely difficult and dangerous for a European to venture

there. The latest follower in the steps of Burckhardt and Burton is a Russian medical man, Dr. Tulatof, who has just returned after successfully accomplishing the Haj in disguise. He was instructed last April by the Russian Plague Commission to inquire into the sanitary condition of some of the principal centres of pilgrimage to which Russian Muhammadan subjects are attracted in any number. He travelled *viâ* Alexandria, Port Said, Suez, and Jeddah, and visited both Mecca and Medinah. One great advantage he possessed over his predecessors in the perilous journey in the fact that he was himself a Muhammadan. Notwithstanding this in several places he was in some danger of violence, his fellow pilgrims taking him for a spy. His statement that the sanitary conditions connected with the pilgrimage and with life in the Holy Places themselves are extremely unsatisfactory is only what might have been anticipated. At present only the briefest references to the journey and its results have appeared in the Russian press, but it may be hoped that Dr. Tulatof will publish a full account of his experiences and help to throw light upon the relation of the pilgrimages to the spread of epidemic disease. Cholera has, it will be remembered, more than once broken out with great severity among the Haj pilgrims. Plague, on the other hand, though it has broken out in each of the last three years at Jeddah, has been practically confined to that port and has not spread inland to any extent. Of the many thousands who have passed through Jeddah to Mecca and Medinah only two developed the disease in either of those towns. These were two pilgrims who were both attacked in Mecca on April 12th of last year and both recovered. It has been stated that plague has never appeared in the Holy Places of Islam and that it was prophesied by the Prophet himself that it never should appear there. The first part of the statement is, however, not altogether true. Thus Burckhardt[1] says that in A.D. 1815 Mecca, Yambu, and Jeddah suffered severely from plague. It is remarkable, however, that at that time El Medinah and the open country between the two seaports of Yambu and Jeddah escaped. Burton,[2] moreover, writing in 1855, states: "It is still the boast of El Medinah that the Taún or plague has never passed their frontier." In the recent appearance of plague on the coast of Arabia El Medinah has again escaped, although two mild cases, as already stated, occurred in Mecca.

Famine and the Population.

The following figures do not refer to the present famine in Southern Russia, but they are interesting as showing the price in human lives which was paid in the last famine in 1892. Fortunately the present scarcity is nothing like so severe as it was in that year and the effect on the population statistics is not likely to be of so startling a character. The figures are quoted by the *Vratch* from the "Medical Chronicle of the Kherson Government." They refer to the ten easterly governments of European Russia:—

—	Average for 1887-91.	In 1892.	Difference.
Births	1,086,740	948,319	- 138,421
Deaths	775,849	1,129,026	+ 353,177
Natural increase or decrease ...	+ 310,891	- 180,707	- 491,598

In other words, in these ten governments the population after the famine was nearly half a million less than it would have been had no famime occurred.

[1] Travels in Arabia, vol. ii.
[2] Pilgrimage to El Medinah and Mecca, vol. ii., p. 174.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, OCT. 26TH.

Provision for the Wounded in South Africa.

MR. DILLON asked the Under Secretary of State for War whether he could now state what arrangements had been made for the care of the wounded in Natal and what number of Roman Catholic chaplains were now with the troops in Natal.—MR. GEORGE WYNDHAM replied: There are at the present time in Natal 44 officers and 263 men of the Army Medical Corps with five nursing sisters. Eight more officers and 80 men are due to reach Durban to-day. The organisation of this staff depends on the principal medical officer, Lieutenant-Colonel Exham, in whom we have every confidence, but so far as is known here the arrangement is as follows. A medical officer is attached to each battalion or regiment and there are also two independent bearer companies. There are five and a half field hospitals, making up 550 beds, a stationary hospital at Ladysmith with 100 beds, and one at Maritzburg with 250. When the staff, due at Durban to-day, has arrived there will be in all 1100 hospital beds available in Natal. Beyond this we have at Wynberg, near Capetown, a hospital with 520 beds and in order to make that available as a base hospital for the force in Natal we have sent out two transports—the *Spartan* and the *Trojan*—specially fitted up for the conveyance of invalids between Durban and Capetown. The *Spartan* should reach Durban in about 10 or 12 days from now and the *Trojan* 10 days later. As to medical stores, medicines, &c., the Director-General informs me that there is an ample stock in Natal for the whole British force, but that it is possible if we have to take charge of large numbers of Boer wounded that our resources may be strained. We shall make provision for this contingency. We are already doing this so far as the occasion has arisen. On Oct. 23rd three Boer doctors, with their assistants, arrived at Ladysmith, and the Boer wounded were placed in the Dutch church under their charge. These doctors expressed to our principal medical officer their gratitude and satisfaction at the unexpected arrangements for the comfort and welfare of the wounded. In reply to the second part of the question I have to say that there are, so far as we know, three Roman Catholic clergymen with the force in Natal as chaplains, but Sir George White has authority to appoint as many more as he thinks necessary.—MR. DILLON: Do I understand that the 44 officers in Natal are qualified medical men?—MR. WYNDHAM: Yes; they are qualified medical men bearing Her Majesty's commission in the Royal Army Medical Corps.

The Bullets used by our Troops.

MR. DILLON asked the Under Secretary of State for War whether the British troops in South Africa were using bullets with hollow points constructed to expand on impact, such as had been condemned by the Peace Conference at The Hague.—MR. GEORGE WYNDHAM replied: No, sir, there are no such bullets being used. The bullets being used are those of which I showed the hon. member a specimen last session.—MR. DILLON: Pardon me, the sample shown me was a bullet with a hollow point, such as was condemned by the Peace Conference.—MR. WYNDHAM: I think the hon. member misunderstands me. I showed him a Mark II. bullet. I have a specimen here. It has no hollow point; it is completely covered. I will show it to him and I am convinced that he will be satisfied.

Khaki Helmets and Haversacks for the Troops.

MR. BROOKFIELD asked the Under Secretary of State for War whether care had been taken to provide all the troops sent on active service in South Africa with helmets or helmet covers of khaki or some similar colour not easily distinguished by an enemy; and whether there was any foundation for a report to which publicity had recently been given that the officers of the 1st or Guards' Brigade, 1st Army Corps, were to wear white haversacks while those of the non-commissioned officers and men were of khaki, like their uniforms.—MR. GEORGE WYNDHAM replied: The answer to the first question is in the affirmative. All ranks in the Guards' Brigade have haversacks of the same colour, except in one battalion, in which the officers have them khaki and the men white. Orders have been given that all haversacks are to be made of the same colour for all ranks. It is easy to produce the khaki colour.

Rejections for Active Service.

SIR HOWARD VINCENT asked the Under Secretary of State for War what number and what proportion of the men comprising the regiments, battalions, and batteries ordered on active service had been rejected as medically unfit or under 20 years of age.—MR. GEORGE WYNDHAM replied: The figures can only be given approximately, as all the returns have not come in; but so far as is known the percentage on all arms of rejection for foreign service on account of insufficient training, of being under age, or of being medically unfit is 36½. We are deliberately leaving behind everybody under 20 years of age and of course that accounts for a very great number. In the course of another reply Mr. Wyndham said that of the reservists who re-joined the colours 7·11 per cent. were found to be unfit for service.

The Death of General Symons.

At this sitting of the House MR. GEORGE WYNDHAM announced that General Sir William Penn Symons had succumbed to his wound. When the announcement was made all the Members present uncovered by way of tribute to the memory of this gallant officer.

Rabies.

MR. MACDONA asked the President of the Board of Agriculture whether hydrophobia is now extinct in Great Britain.—MR. LONG replied: I can scarcely as yet take it on myself to say that rabies in dogs, to which I understand my hon. friend to refer, is now extinct in Great Britain, but, excepting in the district in South Wales, to which muzzling orders still apply, we have no knowledge of the occurrence of any case of the disease since March 24th last. We have therefore good reason to hope that our operations against the disease have succeeded, but much will depend on the support we receive in the enforcement of the measures taken to prevent its re-introduction from Ireland and from abroad.

The Risks of Public Drinking Troughs.

MR. SINCLAIR asked the President of the Board of Agriculture whether his attention had been called to the fact that contagious diseases were being communicated by public drinking troughs to horses and cattle; and whether he could advise local authorities and others to provide taps or some means by which those who had valuable horses could fill their own pails and avoid the risk to which they were now subjected.—MR. LONG replied: No information has recently reached me of specific cases in which disease has been contracted at public drinking troughs, and although I should agree that if the matter be looked at solely from the point of view of safety from the spread of infection stand-pipes afford the best means of watering horses in cases in which drivers carry their own pails, I do not think that it is necessary or that it would be advantageous for me to proffer advice on the subject.

FRIDAY, OCT. 27TH.

Close of the Special Session.

The special session was closed to-day by Royal Commission and Parliament was prorogued to Monday, Jan. 15th, 1900.

Obituary.

JOHN THOMAS ARLIDGE, M.D., F.R.C.P. LOND.

WE announce with regret the death of Dr. J. T. Arlidge, which took place on Oct. 27th at his residence, Newcastle-under-Lyme, after a long illness. About a year and a half ago the deceased was seized with paralysis following an attack of influenza—a seizure which converted a busy professional man into a confirmed invalid. The son of a medical man, John Thomas Arlidge was born at Chatham in 1822. He was educated at the large proprietary school of that town and at the age of 16 years was apprenticed to a medical man in practice at Rochester (Kent). At the close of his apprenticeship he went to London and entered as a student at King's College where he won prizes in anatomy, botany, and divinity. Owing to his success in botany the Apothecaries' Company made him a lecturer of the Society in that subject at the Aldersgate-street School of Medicine. He became prosector at King's College and after taking the degree of B.A. at the University of London studied mental diseases at Hanwell under Dr. Conolly and Dr. Hitchman. After passing through King's College he was admitted a Member of the Royal College of Surgeons of England in 1847. He next applied for, and was elected to, the post of resident medical officer to St. Luke's Hospital for Lunatics, and during his tenure of office was instrumental in abolishing the use of mechanical restraint as well as in building a new chapel, recreation-room, and ball-room. A laundry and sewing-room for the use of convalescent female patients were built and workshops were provided for the men. Fortnightly dances and entertainments were introduced which were joined in by visitors and friends of the officers. After leaving St. Luke's Hospital Dr. Arlidge travelled on the Continent, staying some months at Montpellier. He then went on to Egypt and Palestine, returning by way of Malta and Germany.

DR. J. T. ARLIDGE.

Dr. Arlidge established himself in Kensington and was appointed physician to the West London Hospital, demonstrator of anatomy and lecturer on psychology and medicine at the Grosvenor-place School, and physician to the Surrey, Chelsea, and Farringdon General Dispensaries. In 1862 Dr. Arlidge left London for Staffordshire, being invited to succeed Dr. Wilson Fox as consulting physician with active connexion in an honorary sense in the North Staffordshire Infirmary, then located at Etruria. At that time he had invitations to Sunderland and elsewhere, and was also offered the chair of Medical Science at Melbourne University. During the 37 years Dr. Arlidge resided in Newcastle-under-Lyme his reputation as a consulting physician stood second to none. If he specialised at all it was in diseases of the respiratory organs, which the district gave him ample opportunities of studying. Notwithstanding the many calls upon his time he found leisure to contribute extensively to medical literature. His first published work was "On the State of Lunacy and the Legal Provision for the Insane," dedicated to the Earl of Shaftesbury and issued in 1859. Dr. Arlidge also undertook the re-arrangement and preparation of Part I. of Pritchard's "History of Infusoria" for the revised edition of 1861. In 1867 he took the degree of M.D. of the University of London, and was elected a Fellow of the Royal College of Physicians of London in 1869. His *magnum opus* was "The Hygiene, Diseases, and Mortality of Occupations." This was issued in 1892 and was regarded at the time as the leading authority on this subject. The work owed its origin to the circumstance that Dr. Arlidge had the honour in 1889 of being appointed Milroy Lecturer at the Royal College of Physicians of London and having had his attention directed to the hygiene and diseases of occupations he felt that this was the subject for him to discourse upon. According to the request of the President the lectures were printed in book form. Running to close upon 600 pages this work has been truly described as a monumental one. In this work Dr. Arlidge entered fully into the comparative mortality of occupations, pointing out the dangers attending the various classes of employment. Textile manufacture, metal industries, including mining and, above all, the pottery trade, were dealt with in the fullest manner, and the results of Dr. Arlidge's researches were so much the more valuable in that he had not only a personal knowledge of the circumstances upon which he founded his statements, but was also a medical man. His book, therefore, may be said to complement that of Mr. Charles Booth. Mention should also be made of his contributions to the *British and Foreign Medico-Chirurgical Review*, of which he was editor for some time, his chief articles being "The Calcareous Deposits in the Brain," "Amyloid Degeneration," and a paper of great local value on "The Sanitary State of the Staffordshire Potteries." To the *Psychological Journal* he also contributed between 1857 and 1860 a series of "Notes on the Lunatic Asylums of France, Italy, and Germany." Dr. Arlidge was appointed on the Royal Commission to inquire into the conditions of labour in the Potteries which sat at Stoke in 1893, and in conjunction with Mr. W. D. Spanton of Hanley added a valuable special report on the medical aspect of the question. Shortly after his seizure Dr. Arlidge was made the recipient of two interesting presentations in recognition of his personal worth and the services which he had rendered to the North Staffordshire Infirmary. These presentations took the form of a full-sized portrait in oils, an illuminated address, and a present of silver plate and a tea service. Among the signatories to the address were the Duke of Sutherland, Sir Samuel Wilks, Bart., M.D., Sir C. H. Gage Brown, M.D., K.C.B., Sir Peter Eade, M.D., Sir Thomas Wardle, Dr. J. W. Ogle, Dr. Barnes (London), Dr. Moore (Dublin), and the president and honorary secretary of the British Association of Certifying Surgeons. He leaves a widow and one son, who is a medical man in practice at Stoke-upon-Trent.

On the day of his funeral Alderman T. P. Heath, at the borough police-court, made a feeling reference to the death of Dr. Arlidge who, he reminded his hearers, was the senior magistrate of the borough, having been appointed a magistrate in 1873. Mr. T. Lovatt, the other magistrate present, remarked that one of Dr. Arlidge's chief characteristics was his intense sympathy with the very poor. The deceased was buried in Newcastle-under-Lyme Cemetery on Oct. 30th in the presence of a large number of friends and sympathisers.

JOHN WICKHAM BARNES, F.R.C.S. ENG.

MR. J. WICKHAM BARNES, who died in London on Oct. 12th, has left behind him in the recollection of many friends memories of an active life, full of good works He studied medicine at Charing-cross Hospital, taking the diplomas of L.S.A. in 1852 and M.R.C.S. Eng. in 1853. In 1865 he was admitted F.R.C.S. Eng. (exam.). About 1849 or 1850, while still a student, he was made house surgeon at the Royal Westminster Ophthalmic Hospital, and becoming a

great favourite with Dr. Guthrie his appointment was renewed for a second term as a recognition of his fitness for the post. At the end of his hospital course he was appointed house surgeon at Maidstone Ophthalmic Hospital and soon after, in 1853, having understood that there would be no objection to the step, he married. He then found that the rules of the hospital did not admit of this and he had to leave. He at once took a house at Maidstone and began to practise on his own account, but subsequently hearing that there was likely to be a better opening at Aylesford he secured a house there and took an opportunity of calling on the only other medical practitioner in the place. This gentleman had thoughts of leaving and negotiations were entered into as a result of which Mr. Barnes took over the practice and the house also, this making the third house he had taken in the 12 months. He was entirely dependent on his earnings to pay his way, but he was very successful and soon made a fair income which enabled him to clear off his liabilities. His desire, however, was to practise in London, so he accepted the appointment of surgeon to the Islington Board of Guardians in 1857 at a salary of £40 a year. Islington was not then so extensive as now and Mr. Barnes had no colleagues, but his practice grew so rapidly that he booked £1000 in the first year. His parish patients had a very high opinion of him, for he took especial care in his treatment of them. The parish did not supply medicine and the cost of providing it must have left him little profit from his salary of £40 a year. There is no doubt that if he had remained in Islington he would have continued to do, as he had already done, remarkably well in a worldly sense, but from public spirited motives he sought other fields of work. Mr. Barnes was honorary secretary to the Poor-law Medical Officers' Association for about 20 years, the office of the association being at his rooms, 3, Bolt-court, Fleet-street, where he himself resided when in London. During this time he laboured might and main to secure compulsory superannuation for Poor-law medical officers instead of the occasional voluntary pensions then rarely awarded by boards of guardians. His observation led him to note that this old erratic system of granting or refusing pensions was unjust in the extreme, as he found that those boards of guardians who paid their medical officers with fair liberality frequently gave them a pension afterwards, while those who gave the very lowest remuneration for work invariably refused to grant a pension. He never ceased to bring this grievance as much to the front as possible and his constant exertions for so long a time contributed greatly to the passing of the Poor-law Officers' Superannuation Act of 1896. On the passing of this Act Mr. Barnes resigned his honorary secretaryship, to the duties of which he had devoted so much time, for his health was already failing, while he felt that his labours had reached a very definite stage of success. Mr. Barnes was surgeon-lieutenant-colonel of the 2nd Middlesex Artillery Volunteers and possessed the Volunteer officers' decoration. He also had two silver medals of the Medical Society of London. Major Raglan W. Barnes, R.A.M.C., at present on service in South Africa, is his son.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Otto Schadewaldt of Berlin, who enjoyed a considerable reputation as a specialist in diseases of the throat and respiratory organs.—Dr. Max Vogl, Surgeon-Major-General in the Bavarian Army.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (College of Physicians and Surgeons):* Dr. Isaac R. Trimble has been appointed to the chair of Anatomy in succession to Dr. W. F. Smith, resigned.—*Budapest:* Dr. Michael von Lenhossek of Tübingen has been appointed to the chair of Anatomy in succession to the late Professor von Mihalovics.—Dr. Carl Schaffer and Dr. Samuel Rona, *privat-docenten*, have been granted the title of Professor.—*Caracas:* Dr. E. Meier Flegel has been appointed Professor of Medical Chemistry and Physics and of Forensic Medicine. Dr. Juan Díaz has been appointed Professor of Hygiene and Therapeutics.—*Clausenburg:* Dr. Gustav Rigler has been appointed Extraordinary Professor of Hygiene.—*Cracow:* Dr. Maximilian Rutkowski has been recognised as *privat-docent* of Surgery.—*Gratz:* Dr. Friedrich Pregel has been recognised as *privat-docent* of Physiology.—*Innsbruck:* Dr. Emanuel von Hibler has been recognised as *privat-docent* of Pathological Anatomy.—*Naples:* Dr. Michelangelo Pedicini has been recognised as *privat-docent* of Pathological Anatomy.—*Pavia:* Dr. Edoardo Bonardi of Florence has been recognised as *privat-docent* of Medical Pathology.—*Prague (German University):* Dr. Oskar Bail has been recognised as *privat-docent* of Hygiene.—*Turin:* Dr. Ludovico Isnardi has been recognised as *privat-docent* of Surgical Pathology.—*Vienna:* Dr. Heinrich Albrecht, Dr. Friedrich Schlangenhaufer, and Dr. Anton Ghon have been recognised as *privat-docenten* of Pathological Anatomy, Dr. Ludwig Mandl as *privat-docent* of Midwifery and Gynæcology, Dr. Richard von Zeynek as *privat-docent* of Medical Chemistry, and Dr. Josef Hockauf as *privat-docent* of Pharmacology.

WE see that Mr. Garrett Horder is standing for the Park Ward in the municipal elections at Cardiff. His grasp of public affairs and his energy make him a very suitable candidate and we hope that the electors will so decide.

A MUNIFICENT GIFT.—Mrs. Medley has promised to build, furnish, and endow a cottage hospital for Halwill, Devonshire. The building, which will contain four wards, is to be furnished by July next, the cost being about £2220.

LITERARY INTELLIGENCE.—Messrs. J. & A. Churchill will shortly issue for Dr. Jellett a "Handbook of Gynæcology" uniform with his "Short Practice of Midwifery," which has reached a second edition. The text of the new work will be fully illustrated.

DRAINAGE OF TAUNTON.—At the meeting of the Taunton Town Council held on Oct. 24th the Drainage Committee reported that the Local Government Board had sanctioned the borrowing of £11,000 for purposes of sewage disposal. It is intended to convert the existing works into the septic tank system.

WEST OF ENGLAND EYE INFIRMARY.—The annual meeting of the West of England Eye Infirmary was held at Exeter on Oct. 27th under the presidency of the Rev. E. Chatterton Orpen. The medical report stated that 2891 patients had been under treatment, of whom 2517 had been discharged cured and relieved, so that on Sept. 30th there remained 333 out-patients and 41 in-patients. The daily average number of in-patients had been 46. The financial statement showed that the ordinary income amounted to £1494, and that there was a favourable balance of £179. The committee added that satisfactory progress is being made with the first section of the new building which will be shortly completed, and an earnest appeal was made by them for £9000 to continue the work.

HOSPITAL SATURDAY FUND.—The annual meeting of the Hospital Saturday Fund was held on Oct. 28th at the Mansion House. Alderman Sir Henry E. Knight, the Chairman, said that for the principal portion of its income the Fund, which now amounted to about £20,000 per annum, was dependent on the weekly collections made in the workshops and business houses throughout the metropolis. It was gratifying to find working men showing in such a practical form how much they appreciated the hospitals, and he trusted that from year to year there would be a steady increase in the number of the working classes who contributed, however little, towards the maintenance of these noble institutions. Mr. Bonus, chairman of the Fund, said that up to Oct. 21st the aggregate amount received this year from the workshops' and clubs' collection was £12,461, as compared with £11,678 at the corresponding date of 1898. There had been a saving in expenses of £112 for the same period. The street collection, which was abolished in 1897, brought in £3330, whereas the new method of collecting money by placing boxes in shops, banks, &c., which had been substituted for the street collection, gave them last year only £1172. Among the resolutions carried was one to the effect that the supporters of the Hospital Saturday Fund were not averse to inquiries being made into the fitness of all patients applying for medical relief, provided that the medical condition of the patient be regarded as of primary importance and that any further investigation be made with tact and due consideration for the feelings of the patients and their families.

THE October issue of the *Medical Magazine* will contain a verbatim report of the papers read at the recent conference of the Hospital Reform Association.

THE SHOP SEATS ACT.—The Middlesex County Council have appointed three inspectors to see that this Act is carried out within their jurisdiction.

UNIVERSITY OF OXFORD.—The examinations for the degree of Bachelor of Medicine will commence on Wednesday, Dec. 6th. All information can be obtained from the Secretary to the Boards of Faculties, Clarendon Building, Broad-street, Oxford.

VACCINATION FEES.—At the meeting of the board of guardians held at Neath, Glamorganshire, on Oct. 24th, the chairman stated that the fees paid for vaccination during the past quarter were "enormous," one medical officer receiving £56 for the past three months. The discussion on the subject was adjourned.

MEDICAL MAGISTRATE. — Mr. Frank Parish, M.R.C.S. Eng., L.R.C.P. and L.M. Edin., mayor and mayor-elect of Worthing, has been appointed to the Commission of the Peace for the county of Sussex by the Lord Chancellor, on the recommendation of the Lord Lieutenant, the Marquis of Abergavenny.

WE have received the following from Mr. F. J. Gant with a request for its publication: "Mr. Gant, F.R.C.S., begs to offer his most grateful thanks for the expressions of kind sympathy by letters, far too numerous for personal acknowledgment, which he has received on the death of his devoted wife, in whom the light of his life has gone out."

PRESENTATIONS TO MEDICAL MEN.—Mr. Walter F. Reckitt, L.S.A., has been the recipient of a testimonial on vellum as a token of gratitude for his past services and kindness during the time he had spent among his friends in the East-end of London.—Mr. John Evans, M.D. Lond., has been presented by the members of the police force and others forming an ambulance class at Carnarvon with an illuminated address for appreciated services as instructor to the class.

THE BRISTOL MEDICAL SCHOOL ANNUAL DINNER.—It is proposed to hold this dinner at the Clifton Grand Spa on Nov. 16th. Mr. Nelson C. Dobson will preside, his Honour Judge Austin being the guest of the evening. Already 120 gentlemen have signified their intention of being present. Should any old student have been inadvertently omitted from the list of those to whom notice has been sent it is hoped that he will communicate with the honorary secretary of the Dinner Committee. Great interest attaches itself to this dinner, as it is the first official entertainment since the amalgamation for clinical purposes of the Royal Infirmary and General Hospital.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At the opening of the winter session the following prizes were awarded:—Carmichael Scholarship: Miss M. J. Shire, £15. Mayne Scholarship: D. A. Fitzgerald, £15. Gold and Silver Medals in Operative Surgery: C. R. Boyce, gold medal; and C. Myles and J. F. Peart (equal), silver medal. Practical Histology: E. Evatt, first prize (£3) and medal; and A. Charles, second prize (£1) and certificate. Practical Chemistry: E. C. Byrne and J. R. H. M'Manus (equal), first prize (£2) and medal. Public Health and Forensic Medicine: J. P. Byrne, first prize (£3) and medal; and E. Evatt, second prize (£1) and certificate. Materia Medica: J. S. Ashe, first prize (£3) and medal; and T. A. Dillon, second prize (£1) and certificate. Practical Pharmacy: Miss J. C. Hargrave, first prize (£3) and medal; and W. Ormsby, second prize (£1) and certificate. Biology: J. R. B Buchanan and Miss J. C. Hargrave (equal), first prize (£2) and medal. Descriptive Anatomy: Junior—J. Cockburn, first prize (£3) and medal; and R. G. Allen, second prize (£1) and certificate. Senior—A. Charles, first prize (£3) and medal; and T. A. Dillon, second prize (£1) and certificate. Practical Anatomy: First year—R. G. Allen, first prize (£3) and medal; and R. W. Burkitt second prize (£1) and certificate. Second year—A. Charles, first prize (£3) and medal; and C. W. Ewing, second prize (£1) and certificate. Third year—C. R. Boyce, first prize (£3) and medal; and J. F. Peart, second prize (£1) and certificate. Practice of Medicine: J. P. Byrne, first prize (£3) and medal; and T. J. Tallon, second prize (£1) and certificate. Surgery: J. S. P. Stewart, first prize (£3) and medal; and J. P. Byrne and W. R. Meredith (equal), second prize (£1) and certificate. Midwifery: Mrs. H. L. Hennessy, first prize (£3) and medal; and J. S. P. Stewart, second prize (£1) and certificate. Physiology: Miss M. J. Shire, first prize (£3) and medal; and A. Charles, second prize (£1) and certificate. Chemistry: T. Keogh, first prize (£3) and medal; and G. G. Tabuteau, second prize (£1) and certificate. Pathology: J. F. Peart, first prize (£3) and medal; and H. Graff, second prize (£1) and certificate. Physics: W. Ormsby, first prize (£3) and medal; and A. Ellenbogan, second prize (£1) and certificate.

THE WEST LONDON HOSPITAL.—The annual dinner of the staff of the West London Hospital took place at the Great Central Hotel on Wednesday, Oct. 25th, Mr. Percy Dunn being in the chair. Out of 20 acceptances 17 members of the staff were present. After the usual loyal toasts had been duly honoured the chairman proposed the toast of "The West London Hospital," in the course of which he referred to the gratifying progress which had been made in the establishment of the post-graduate college in connexion with the hospital and to the benefits which were likely to accrue from the enlargement and improvements now being effected in the out-patient department. The dean of the post-graduate college, Mr. L. A. Bidwell, replied and gave some interesting details of the advancement and progress of the enterprise since its inception a few years ago. Afterwards the reunion resolved itself into a committee in which many matters were discussed relating to the well-being of the hospital and resolutions passed thereupon. The toast of "The Health of the Chairman," proposed by Mr. Keetley, brought the proceedings to a close.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDREWS, WM., M.D., Ch.B. Melb., has been appointed Honorary Physician to the Melbourne Hospital, Victoria, Australia.

BARKER, W. H., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Superintendent for the Ararat Lunatic Asylum, Victoria, Australia, vice W. B. Smith.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health by the Thornbury (Gloucester) Rural District Council.

BOON, J. G., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Broseley Sanitary District of Shropshire.

BOYD, W. R., M.D. Melb., M.R.C.S., has been appointed Honorary Physician to the Melbourne Hospital, Victoria, Australia.

BRADFORD, P. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bracknell Sanitary District of the East-hampstead Union, vice N. Davis, resigned.

BROWN, A. P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Elsdon Sanitary District of the Rothbury Union, vice W. Dinwoodie resigned.

BUNBURY, EDWARD GARRETT, L.R.C.P. Lond., M.R.C.S., Civil Surgeon, has been appointed to the medical charge of the troops at Bristol to fill a temporary vacancy in the medical staff of the district.

BUTTERWORTH, J. J., M.B., B.Ch., has been appointed Junior House Surgeon to the Manchester Royal Eye Hospital.

CAMPBELL, M., M.B., B.S. N. Zeal., has been appointed Assistant House Surgeon, Christ Church Hospital, New Zealand.

CHURCH, B. E., L.S.A. Lond., has been appointed Medical Officer for the Fourth Sanitary District of the Stroud Union, vice F. Fowler resigned.

CLEGG, J. GRAY, M.D., B.S., F.R.C.S., has been appointed Honorary Assistant Surgeon to the Manchester Royal Eye Hospital.

CRADDOCK, S., M.R.C.S., has been appointed Medical Offic r for the Children's Homes of the Bath Union.

DAISH, WM., M.D., Ch.B. Melb., has been appointed Honorary Physician to the Melbourne Hospital, Victoria, Australia.

DUNWOODY, W. G., M.D., B.Ch. Dub., has been appointed Medical Officer of the Ely Workhouse.

GODFREY, C. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., M.R.C.S., has been appointed Assistant Medical Officer in the professional division of the public service, Victoria, Australia.

GRAHAM, A. W., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health for Beaconsfield, Tasmania.

HARRIS, S. C., L.F.P.S. Glasg., has been appointed Medical Officer for St. Mary's Parish, Ely

HORROCKS, H., M.D., B.Sc. Lond., L.R.C.P., M.R.C.S., D.P.H. Lond., has been appointed a Member of the Dental Board for West Australia.

HUTCHENS, H. J., M.R.C.S., has been appointed Medical Officer at Beenleigh, Queensland, vice A. Sutton, resigned.

JAMES, W. H., M.B. Melb., has been appointed Public Vaccinator at Kangaroo Flat, Victoria, Australia, vice G. O'Donnell, resigned.

JAMESON, A., M.B., Ch.M. Edin., has been appointed a Member of the Dental Board for West Australia.

JONES, C. H., L.R.C.P. Lond., M.R.C.S., has been appointed Health Officer to the Day Dawn Local Board of Health, West Australia.

KENNY, D., L.K.Q.C.P. Irel., L.R.C.S., has been appointed a Member of the Dental Board for West Australia.

LAWRENCE, C. V., M.D. Melb., has been appointed Honorary Physician to the Melbourne Hospital, Victoria, Australia.

MACFARLANE, W. H., M.B., Ch.B. Melb., has been appointed Superintendent of the Hospital for Inebriates, New Norfolk, Tasmania.

MCLAREN, J. B., M.B., B.Ch. Irel., has been appointed Medical Officer for the Workhouse of the Salford Union, vice A. W. Stocks, resigned.

MIDDLEMIST, R. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Ryhall Sanitary District of the Stamford Union, vice R. A. Farrar, resigned.

MULLEN, W. L., M.D., Ch.B. Melb., has been appointed Senior Medical Officer for the Metropolitan Lunatic Asylum, Victoria, Australia, vice C. G. Godfrey.

MURDOCH, JAMES, L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon-Captain of the New Zealand Volunteer Medical Staff.

NIHILL, J. E., M.D. Durh., Ch.B., M.R.C.S., has been appointed Honorary Physician to the Melbourne Hospital, Victoria, Australia.

PURDEY, J. M., M.B., Ch.B. Melb., has been appointed Deputy Health Officer for the Port of Launceston, Tasmania.

REED, JAMES, M.R.C.S., L.S.A. Lond., has been appointed Surgeon to the Hospital at North Palmerston, New Zealand.

ROCKETT, P. J. A., M.B., Ch.B. Melb., has been appointed Officer of Health for Gormanston, Tasmania.

SANFORD, J. C., Civil Surgeon, has been appointed to the medical charge of the troops at Bodmin.

STANWELL, ST. JOHN, M.B., C.M. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Barnack Sanitary District of the Stamford Union, vice R. A. Farrar, resigned.

STOKES, H. FRASER, M.D., has been appointed District Medical Officer to the London County Council.

TAYLOR, H. J., M.R.C.S., L.R.C.P., has been appointed Senior House Surgeon to the Manchester Royal Eye Hospital.

WINDLE, J. D., M.B., Ch.B. Vict., L.R.C.P. Irel., L.R.C.S. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Southall-Norwood Urban District Council.

WHITELAW, F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Holsworthy Union, vice J. H. White, resigned.

ZAYTOUN, F. S., M.B., M.S. Edin., has been appointed Medical Officer for the Third Sanitary District of the Bellingham Union, vice W. Dinwoodie, resigned.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BRACEBRIDGE ASYLUM, Lincoln.—Junior Assistant Medical Officer, unmarried. Salary £125 per annum, with furnished apartments, board, attendance, &c.

BRISTOL GENERAL HOSPITAL.—Assistant Physician.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Board and residence provided in the hospital.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant. Tenable for three months. Fee 3 guineas.

CHELSEA HOSPITAL FOR WOMEN CONVALESCENT HOME, West Hill, St. Leonard's-on-Sea.—Honorary Medical Officer. Apply to the Secretary, at the Hospital, Fulham-road, S.W.

DERBY BOROUGH ASYLUM.—Assistant Medical Officer. Salary £120 per annum, with board and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £50 per annum, with furnished apartments, board, and washing.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, London.—Resident Medical Officer, unmarried, speaking French. Salary £80 per annum, with full board.

HARRIS PARISH COUNCIL—FOR THE SOUTHERN DIVISION OF HARRIS.—Medical Officer and Public Vaccinator. Salary £90, other emoluments. Apply to Mr. T. Wilson, Solicitor, Lochmaddy, Clerk.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—Resident Medical Superintendent for one year. Salary £105, with board and residence in the hospital.

INFIRMARY OF THE CITY OF LONDON UNION.—Assistant Medical Superintendent at the Infirmary of the Union, situate in Bow-road, single or widower without children. Salary £150 per annum, with furnished apartments at the Infirmary, rations, and washing. Subject to statutory deductions. Apply to the Clerk to the Guardians, 61, Bartholomew-close, E.C.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

LIVERPOOL DISPENSARIES, 34, Moorfields, Liverpool.—Senior Surgeon of the East Dispensary, unmarried. Salary £200 per annum, with board and apartments.

LONDON TEMPERANCE HOSPITAL, N.W.—Surgical Registrar and Anæsthetist. Honorarium 50 guineas.—Also Assistant Resident Medical Officer for six months. Honorarium at the rate of 50 guineas per annum. Board, residence in the hospital, and washing provided.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Honorary Aural Surgeon. Apply to the Secretary, Dispensary, Gartside-street, Manchester.

NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, London.—Honorary Anæsthetist.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 a year. Special arrangement as to board, &c.

OXFORD EYE HOSPITAL.—House Surgeon. Honorarium £50 on completing a year's residence, board, and lodging.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Commencing salary £130 per annum, with furnished rooms, fire, lights, and attendance.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar.—First and Second Assistant House Surgeons for six months. Salary at the rate of £65 per annum, with board and residence.

PRESTON ROYAL INFIRMARY.—Assistant House Surgeon. Salary £50 per annum, with board, lodging, and washing, &c.

PUBLIC DISPENSARY, 59, Stanhope-street, Clare Market, London.—Resident Medical Officer. Salary £105 per annum, with furnished apartments, coals, and gas. Applications to the Secretary, 14 and 15, Portugal-street, Lincoln's Inn.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, London.—Ophthalmic Surgeon. Also a Physician. Also two Physicians to out-patients. Also Dental Surgeon.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board and washing

ROYAL HANTS COUNTY HOSPITAL, Winchester.—Honorary Dentist for five years. Also Honorary Ophthalmic Surgeon for five years.

ROYAL INFIRMARY, Hull.—House Surgeon for two years, unmarried. Salary 100 guineas per annum, with board and furnished apartments.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Assistant Resident House Surgeon for six months. Salary at the rate of £50 per annum, with board and lodging.

ST. MARY'S HOSPITAL, Quay-street, Manchester.—Resident Medical Officer for six months. Salary £65 per annum, with board and residence.

SUFFOLK GENERAL HOSPITAL.—House Surgeon. Salary £100 a year, with board, lodging, and washing. Apply to the Secretary, Bury St. Edmunds.

THREE COUNTIES ASYLUM.—Assistant Medical Officer, unmarried. Salary commencing at £125 per annum, with board, apartments, washing, and attendance. Apply to the Clerk to the Visiting Committee, St. Neots, Hunts.

TOTTENHAM HOSPITAL.—Senior Resident Medical Officer. Commencing salary £60 per annum, with board, residence, and laundry.

UNIVERSITY COLLEGE, London.—Second Anæsthetist.

Births, Marriages, and Deaths.

BIRTHS.

BEST.—On Oct. 31st, at Cambridge-terrace, Dover, the wife of W. J. Duncan Best, M.R.C.S., L.S.A. Lond., of a daughter.

NEWTON.—On Oct. 24th, at Balcombe, Sussex, the wife of Reginald Newton, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

WHICHELLO—RAYNER.—On Oct. 26th, at St. Mary's, Paddington-green, Edmund Whichello, B.A., M.B., B.C. (Cantab.), of Dudley-road, Birmingham, to Edith, youngest daughter of William Rayner, of Park-place-villas, and Leinster-terrace, W.

WHARRY—COLLMANN.—On Oct. 28th, at Holy Trinity, Upper Chelsea, Henry Gordon Wharry, M.R.C.S., younger son of Captain Wharry (late R.A.), to Margaret (Madge) Collmann, only child of John S. Collmann, of Sloane-gardens, S.W.

MAY—GWYNNE-EVANS.—On Oct. 25th, at St. George's, Hanover-square, William Page May, M.D., of Welbeck-street, and Helouan, Egypt, to Beatrice Alice, daughter of William Gwynne-Evans, of Penlan Hall, Colchester.

DEATHS.

ARLIDGE.—On Oct. 27th, at Onslow, Newcastle-under-Lyme, John Thomas Arlidge, M.D., F.R.C.P., J.P., late of The High Grove, Stoke-on-Trent, aged 77 years. Friends please accept this the only intimation.

LEWIS.—On Oct. 26th, at the London Fever Hospital, of scarlet fever, Frederick Henry Lewis, B.A., M.B., M.R.C.S. Eng., and L.R.C.P. Lond., of 46, Weymouth-street, W., son of the late Dr. Frederick Lewis, of Gloucester-place, N.W., and stepson of G. F. Canti, of 71, The Drive, Hove, Sussex, aged 32 years.

MACKEY.—On Oct. 24th, at 85, Finborough-road, South Kensington, after a protracted illness, of typhoid fever, Stephen William Mackey, L.R.C.S.I., L.R.C.P., L.M., aged 49 years. R.I.P.

MCCARTHY.—On Oct. 24th, at Wingfield, St. Mary Church, Torquay, Michael Joseph McCarthy, late Fleet-Surgeon R.N., aged 45.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL POSTS IN DISTANT LANDS.

A CORRESPONDENT asks us to emphasise a warning as to the acceptance of medical posts in out-of-the-way corners of the empire. He points out that advertisements are inserted in the medical journals dealing with such posts and that when the unwary practitioner arrives at his journey's end he finds the state of things very different from that which he gathered from the advertisement. As regards advertisements in our own columns we may say that it is impossible to be certain of the *bona fides* of every advertiser, and that if an advertisement appears to be fair and above board on the face of it such advertisement is inserted. Of course, in the event of an advertiser turning out to be deceitful his further notices are not accepted. The principle of *caveat emptor* must apply to these matters. And we would point out to would-be purchasers of assistantships or partnerships that before starting for British Columbia, or Guiana, or the Cape, or Tasmania, they should make the very fullest inquiries and should by no manner of means sign any contract or bond with reference to the practice until they have every guarantee of the *bona fides* of the other party. Buying pigs in pokes does not do nowadays. We have heard of an instance where a medical man entered into a contract with another that in the event of his setting up for himself he would not practise within 100 miles of the main practice or the branch. When he arrived at the scene of his labours he discovered that the branch was some 70 miles distant from the main practice so that to avoid breaking his bond he had to go over 170 miles from the place where he had commenced to be known. We do not say that this kind of thing is common, but it none the less behoves intending purchasers to be careful.

"CHLOROFORM ANÆSTHESIA—A QUERY."

To the Editors of THE LANCET.

SIRS,—I have perused Dr. Edmunds's letters in THE LANCET of Sept. 30th, pp. 921, 922, and Oct. 28th, pp. 1205-6, upon the method of administering and upon the dosage of chloroform vapour. When I used to administer chloroform I have often felt the importance of its being administered on rules such as Dr. Edmunds lays down and so clearly explains. To "push it," as I was sometimes urged to do, always appeared to me to be fraught with danger to the patient, as to suddenly throw into the lungs the chloroform vapour, especially if too concentrated, could hardly fail to excite spasm of the glottis with cough, &c., tending to the extinction of life before operation, whereas, as Dr. Edmunds justly says, by its gradual introduction to a patient properly prepared for its administration these symptoms ought to be avoided. My object used to be for the patient to be only just under its influence, and this condition appears to be easily attained by the mode of administration advocated by Dr. Edmunds, especially with the regulating inhaler described by him. I can only hope that all those who administer chloroform vapour will see Dr. Edmunds's letters and give them the attention they merit, as it cannot but result in the saving of many lives and redound to the comfort and satisfaction of the profession. I am, Sirs, yours faithfully,

C. J. HARRIS, M.R.C.S. Eng., &c.

Kilburn Priory, N.W., Oct. 28th, 1899.

To the Editors of THE LANCET.

SIRS,—I am able, from personal experience, to endorse in every detail the high opinions of the Krohne chloroform inhaler advanced by Dr. Edmunds in THE LANCET of Sept. 30th and Oct. 28th. Without attempting to generalise on the limited experience which necessarily belongs to an individual I think it worthy of record that on those occasions on which I have myself used, or have watched, the use of the Krohne inhaler during the last five years I have never witnessed irregular respiration, struggling, or distress of any kind during the establishment of anæsthesia; neither have I experienced a moment's anxiety during its maintenance. I have had considerable experience of the towel method of administration. My conclusions in comparing the towel with the Krohne inhaler for the administration of chloroform are altogether in favour of the latter. How could this be otherwise unless one is prepared to accept the proposition that wildly inaccurate dosage is a desirable thing in chloroform administration? Both methods possess the common advantage of permitting the unimpeded respiration of normal air carrying a proportion of chloroform vapour. It is only with reference to the control of this proportion in which the methods differ. By the towel method the proportion varies with the amount of chloroform contained in the towel and with every movement of the air to and fro over the patient's face. The quantity inhaled is regulated, not by the administrator only, but by the conditions of the moment, and the administrator never knows accurately how much chloroform his patient is absorbing. I have always considered that the strongest evidence which can be advanced in favour of chloroform is the fact that it is possible to use so reckless a method of administration without killing 50 per cent. of the patients subjected to it.

With the Krohne inhaler the dose projected into the air of each inspiration can be graduated according to the requirements of the moment and the maximum dose is automatically confined within the limits of safety. During its use, when anæsthesia has been produced, I have always felt that I could steadily maintain my patient *in medias res*, keeping a broad margin between the existing state and the region of danger and an equally broad one between the subject and consciousness. I am, Sirs, yours faithfully,

KENNETH STEWART, M.D. Edin.

Chapel-street, Belgrave-square, S.W., Oct. 29th, 1899.

"A DISCREDITABLE CIRCULAR."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 28th there appears a short and vague note from Mr. John Leonard, 19, North Earl-street, Dublin, with reference to the "discreditable circular" upon which you have commented, and which Mr. Leonard "repudiates." The "firm of chemists" from which the circular emanated is known as J. Leonard and Co., and the parent establishment is at 19, North Earl-street. That is also Mr. Leonard's address in both the Medical Register and Medical Directory. The trade name "J. Leonard and Co." appears five times on the front of that house. On a lamp over the door one reads "Leonard's Medical Hall" and a plate at the side of the door bears the words, "Doctor Leonard—Night Bell." The new branch, to which the circular related, has "J. Leonard and Co." over the shop-front, and "Leonard's, Cash Chemists," and "Leonard's Medical Hall" on the windows. Over the door is seen "Doctor Leonard—Surgery," and the announcement, "Surgery hours, 11 A.M., 3 P.M., 8 P.M.," is at the entrance. As the shop is open all day the last can only refer to times for seeing patients. In the impersonal note, "presumably from Mr. Leonard," in THE LANCET of Oct. 21st it was stated that Mr. Leonard is an invalid. Who plays the part of "Doctor Leonard" in the vicarious consultations? Notwithstanding the disposition of his "interest in the pharmacy some years ago" Mr. Leonard's connexion with this firm appears very intimate, especially when we bear in mind that his name has been placed on the new branch "surgery" only within the last few weeks. In face of the facts stated Mr. Leonard will require to do something more than merely announce his "future address" if he wishes to dissociate himself from practices which he professes to "repudiate."

There is a Mr. J. C. McWalter, L.R.C.S.I. and L.A.H., whose address is also given in the Medical Register and Medical Directory as 19, North Earl-street, Dublin. Perhaps he could offer some explanation. I am, Sirs, yours faithfully,

Oct. 30th, 1899. JANUS.

THE SOCIETY OF UNITED PRAYER FOR THE PREVENTION OF CRUELTY TO ANIMALS.

A CORRESPONDENT has sent us a leaflet which he found on a seat in a London church issued by the above society, the honorary secretary of which is Miss Woodward, of Lancaster-road, W. This lady, we take it, is the same lady who was, and may be still, honorary secretary of the Church Anti-Vivisection League, a society upon whose ways we commented in THE LANCET of May 23rd, 1896, and following numbers. No one can cavil at a society formed for the purpose of united prayer and we should be the last to do so. Medical men are in no wise in love with cruelty. But so far as we can judge from the leaflet of "Intercessions" the members of the society seem to be devoid of that saving grace, a sense of humour. Thus we find a petition "that energetic workers in the cause of mercy may be raised up among the residents of Colwyn Bay." For "a spirit of mercy ..... especially for drivers at Colwyn Bay." That "the Masters of Eton College may no longer countenance cruelty among their pupils." What this last petition can mean we are unable to imagine unless it has some recondite allusion to the school pack of beagles. We must, however, congratulate the society on apparently working on different lines from other opponents of vivisection. Everyone has a right if he or she be so minded to consider vivisection immoral and to fight against it. But lies, misrepresentations, and slander are not proper weapons, and vivisectors have been, and probably will be again, exposed to such.

A DUAL RÔLE.

To the Editors of THE LANCET.

SIRS,—Will you allow me in the first place to state my case? Within a mile of London Bridge, on its southern side, there is—in one direction—a large firm of brewers and in the other a large hospital. The firm of brewers employs a considerable number of men and the ailments of these employés are treated by a medical man appointed by the firm, and this medical officer receives, I believe, a very respectable salary. A few months ago the surgeoncy to this firm became vacant owing to the retirement from general practice of the holder of the appointment—a gentleman well known and highly respected as a practitioner. The large hospital, whose president is "the first gentleman of England," has a deservedly high reputation and is characterised by the strong *esprit de corps* which exists between its staff and the past and present students. One of its past students purchased the practice of the retiring surgeon of

the firm of brewers, but the appointment could not, of course, be transferred with the practice. The man who bought the practice naturally applied for the vacant surgeoncy. He failed, however, to secure the coveted post. The candidate who *did* secure it was a former fellow-student of the unsuccessful candidate and was also at the time a member of the teaching staff of the hospital in question. He has since been elected assistant physician and he thus has now the honour of holding a dual appointment—viz., that of assistant physician of the hospital and surgeon factotum to the firm of brewers, with its usual accompaniments of dressing, bandaging, and prescribing "done on the premises."

What judgment must be passed upon the case when it is viewed from the standpoint of medical ethics? For a member of the teaching staff of a large hospital to compete for such a post—a post wholly within the province of general practice—is bad enough; for such a one to compete with and score a success over a former fellow-student and the purchaser of the practice is infinitely worse; but the worst of all is that this successful candidate, this member of the teaching staff, undoubtedly owes this brilliant success to the prestige and recommendations which are invariably associated with the name of a large hospital. Surely, Sirs, his position is indefensible. To be assistant physician to a time-honoured hospital and surgeon factotum to a firm of brewer's at one and the same time, how does this new departure harmonise with our views of consultants? Is it consistent with the traditions of his hospital staff—now his colleagues?

I am, Sirs, yours faithfully,

London, Oct. 24th, 1899. JUSTITIA.

*** Our correspondent informs us that he writes without personal interest in the matter and as a stranger to the gentleman who recently purchased the practice but failed to secure the appointment. We recognise that young consultants must live as well as other people, but we think that the dual rôle described in Justitia's letter is not a pleasant one to play.—ED. L.

A BREACH OF TRUST.

To the Editors of THE LANCET.

SIRS,—I had occasion to send a patient to Messrs. Coxeter and Son of Grafton-street in order to have a skiagraph of his leg taken. I received copies for myself and the patient, but when I offered to purchase the plate the firm were unwilling to part with it. Later, I found that they had supplied a copy to some other person, that they sent a representative to a public meeting to explain the plate, and that a copy was there exhibited without my previous knowledge or consent and without the knowledge or consent of my patient. Now, Sirs, seeing that I paid for the skiagraph to be taken and that the patient was under my care I wish to ask you what right the photographer had to part with any copy to a third person or to send a representative in connexion therewith to a public meeting without first acquainting me? I may add that I wrote to the firm for an explanation, but they have not had the courtesy to reply to my letter.

I am, Sirs, yours faithfully,

EDGAR DU CANE, B.A., M.B. R.U.I.

Sheppard-street, New Swindon, Oct. 30th, 1899.

*** We recommend medical men desiring to have skiagraphs of their patients taken to note this story. No arguments, if such are possible, founded upon questions of copyright can excuse the photographers in using the skiagraph of a patient without obtaining the leave of the patient or informing the medical man who paid for the skiagraph. As the matter is described in Dr. Du Cane's letter it constitutes, we think, a breach of trust.—ED. L.

OBSTETRICS UP-TO-DATE.

To the Editors of THE LANCET.

SIRS,—I was gravely informed a few days ago by a former patient, a lady of birth and education, that the "very latest" was that "if you were in the family way you had only to go to a doctor you know and he could make you have a girl or a boy, whichever you wanted." Will any of our *fin de siècle* obstetricians kindly reveal to their humble and expectant provincial colleagues the secret of this crowning triumph of their art?

I am, Sirs, yours faithfully,

Kilmorey, Penarth, Oct. 30th, 1899. E. MACREADY SPENCER.

*** The patient had evidently read some of the wilder lay comments upon Dr. Schenk's theories and book.—ED. L.

THE OBLIGATION TO ATTEND ACCIDENT SUMMONSES.

AN inquest was recently held in Bradford upon the body of a lad who sustained fatal injuries by falling from the roof of a house. A witness said that after the accident he sent for medical assistance and eventually himself asked Mr. M. Hayes to attend. Mr. Hayes inquired who would pay him. Witness replied that the brewery company for whom deceased worked would pay, but Mr. Hayes did not attend. Mr. Hayes himself gave evidence and said that he never refused absolutely to attend; he had so many accident cases that it was impossible for him to attend unless he had a reasonable prospect of receiving his fees. The deputy coroner, on the suggestion of a juryman, said that possibly the corporation might make some arrangement whereby fees might be paid in cases of serious accident. Medical men were under no compulsion to attend except in accordance with a previous agreement. We do not know when it will dawn upon the average juryman that a medical man is a free agent. Whether he chooses to attend or not is entirely his own business. There is no class which does more work for nothing than medical men, and the stuff constantly talked in these cases about inhumanity and greediness is sheer twaddle.

THE "STOWAWAY" SUSPENSORY BANDAGE.

WE have received from the Domen Company, 456, Strand, a new form of suspensory bandage to be used in walking, cycling, rowing, and riding. Many men devoted to active exercise, especially hunting men, know the comfort to be derived from a well-constructed suspensory bandage. The "Domen" suspensory bandage is of a new shape and keeps the genital organs at rest while protecting them from the accidental injury to which in some forms of exercise they are liable. The appliance is so constructed that it supports the penis separately from the scrotum and the possible inconveniences of friction are much lessened. The specimens submitted to us were made in cotton, in Jaeger wool, and in silk, and appear to be light, cool, and durable. The prices of the samples were respectively 2*s.* 3*d.*, 4*s.* 6*d.*, and 5*s.*

NEISSER'S STAIN.

To the Editors of THE LANCET.

SIRS,—In connexion with the Transactions of the Jenner Institute of Preventive Medicine I notice in THE LANCET of Oct. 28th Dr. Hewlett's reference to Neisser's stain as a rapid method of diagnosis for the bacillus diphtheriæ. On looking up Dr. Hewlett's Manual of Bacteriology I cannot find any mention of this stain. I should therefore deem it a favour and be grateful if Dr. Hewlett would be good enough to inform me as to what Neisser's stain really is and its mode of procedure as a means of diagnosis for the Klebe-Löffler bacillus.

I am, Sirs, yours f hfully,

Great Yarmouth, Oct. 28th, 1899. Jo R. O'BRIEN.

HOMES FOR THE TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—Can any reader of THE LANCET give the addresses of best homes for treatment of phthisis in (1) England and (2) Colorado, U.S.A., with cost of treatment and probable chances of recovery in an early stage of the disease?

I am, Sirs, yours faithfully,

46, Academy-street, Inverness, Nov. 1st, 1899. J. W. B.

Plumbum.—We recommend the Goulstonian Lectures on Lead Poisoning (THE LANCET, March 7th (p. 530), 14th (p. 583), and 21st (p. 644), 1891) by Dr. Thomas Oliver and the same author's article on Lead-Poisoning in Professor Clifford Allbutt's "System of Medicine," vol. ii. The late Dr. J. T. Arlidge's book on "The Diseases of Occupation" should also be consulted.

M.D. R.U.I.—We cannot find the name of the medical man in the Register, and as we notice that the words attributed to him are undated we think it possible that he is dead. It is not inconceivable that he never lived.

F.C.S.—We cannot give an opinion upon the facts supplied to us.

K. E. N.—We cannot notice the invention until we have seen it.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 2nd, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Oct. 27	29·79	S.W.	0·22	63	61	55	58	59	Overcast
,, 28	29·78	W.	1·24	97	64	58	59	60	Cloudy
,, 29	29·89	S.W.	...	80	61	53	57	58	Cloudy
,, 30	29·58	N.E.	0·2 0	64	53	51	51	52	Raining
,, 31	30·02	S.W.	0·11	87	57	42	43	45	Fine
Nov. 1	30·04	S.	...	95	61	45	48	50	Hazy
,, 2	29·60	S.	0·01	70	60	50	58	59	Raining

During the week marked copies of the following newspapers have been received: *Ceylon Standard, Scientific American, Christian Age, Hotel World, Bath Argus, Weekly Sun, Bradford Observer, Sheffield Daily Independent, Financial News, Aberdeen Herald, Public Health Engineer, Science Siftings, Manchester Guardian, Eastern Daily Press, Times of India, Pioneer Mail, Architect, Builder, Citizen, Scotsman, Leeds Mercury, Western Mail, City Press, Liverpool Daily Post, Brighton Gazette, Bristol Mercury, Scarborough Post, Yorkshire Post, Morning Leader, London Argus, Bradford Daily Argus, Newcastle Daily Chronicle, Dundee Advertiser, Surveyor, Mining Journal, Reading Mercury, Hertfordshire Mercury, Local Government Chronicle, Surrey Advertiser, Local Government Journal, Australasian Medical Gazette, Huddersfield*

Examiner, Cambridgeshire Times, Weekly Free Press and Aberdeen Herald, Evening Express (Cardiff), South Africa, Swindon Advertiser, Halifax Courier, Nuneaton Observer, Birmingham Daily Gazette, Staffordshire Sentinel, Staffordshire Advertiser, Essex County Standard, Cork Herald, Rangoon Times, Malton Gazette, Ayr Advertiser, &c., &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (11th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (3.15 P.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (6th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square).—7 P.M. Council Meeting. 8 P.M. Mr. S. Bennett (President): Inaugural Address. Paper:—Mr. J. F. Colyer: Some Notes on the Treatment of Superior Protrusion. Casual Communications:—Mr. F. J. Bennett: Notes of a Case of Loss of the entire Palate successfully treated by Mr. J. H. Whatford. Also by Mr. C. Robbins and Dr. F. Hewitt.

TUESDAY (7th).—EAST SUBURBAN MEDICAL PROTECTION AND MEDICO-ETHICAL SOCIETY (Town Hall, Stratford, E.).—3.15 P.M. General Meeting. Mr. C. S. Loch (Secretary of the Charity Organisation Society): The Use of Medical Charities.

PATHOLOGICAL SOCIETY OF LONDON (Jenner Institute, Grosvenor-road, S.W.).—8 P.M. Laboratory Meeting. Microscopes: Mr. Dean: A New Streptothrix. Also by Dr. Macfadyen and Mr. Shattock. 8.30 P.M. Demonstrations:—Dr. Macfadyen and Dr. Salter: A Diphtheria-like Organism found in Pigeons.—Dr. Klein: The Bacillus of Pseudo-tuberculosis.—Professor Horsley: Lantern Demonstration.—Dr. Dean and Dr. Salter: Hæmolytic Action of Toxins (test-tube demonstration).—Dr. Byre and Dr. Washbourn: The Method of Testing Anti-pneumococcic Serum.—Mr. Shattock: Chromocyte Clumping.—Dr. Dean: Diphtheria Immunity.—Dr. Orr: A New Method of Staining Medullated Nerve Fibres and a Modification of Marchi's Method.—Dr. Salter: Tetanus Immunity.

WEDNESDAY (8th).—HUNTERIAN SOCIETY.—8.30 P.M. Discussion on the Treatment of Typhoid Fever (opened by Dr. N. Pitt).

THURSDAY (9th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Card Specimens. 8.30 P.M. Papers:—Mr. A. Lawson: Corneal Horns.—Mr. E. T. Collins and Mr. C. D. Marshall: Two Cases of Primary Tumour of the Optic Nerve.—Mr. J. Griffith: Iritis a sequel of Gonorrhœa.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Purcell, Dr. H. Snow, and Mr. Bowreman Jessett. Papers:—Dr. R. H. Hodgson: A Case of Tubercular Peritonitis simulating Abdominal Tumour, Operation, Recovery.—Dr. J. Oliver: On the Physico chemical Conditions concerned in the production of Version of the Uterus.

FRIDAY (10th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. H. B. Robinson: Acute Intestinal Obstruction due to an Intussusception of Meckel's Diverticulum.—Mr. J. Bland Sutton: On a Case in which Primary Nephrectomy was performed for complete Rupture of a Kidney.—Dr. N. Dalton: A Case of Enlarged Spleen due to Congenital Volvulus of the Stomach and Transverse Colon and simulating Splenic Anæmia.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (6th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Mr. L. Browne: Gout in Relation to the Throat and Larynx.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Anatomy and Dislocations of the Joints of the Upper Extremity.

TUESDAY (7th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-sq., W.C.).—3.30 P.M. Dr. Ormerod: Muscular Atrophy.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Clinical Demonstration:—Dr. H. Campbell: Cases of Chorea and Allied Affections.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. Ewart: Public Consultation and Clinical Demonstration (Medical).

WEDNESDAY (8th).—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. T. D. Savill: Prurigo and Pruritus. (Post-graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. P. Kidd: Laryngeal Tuberculosis.

THURSDAY (9th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Differential Diagnosis of Nasal Obstructions.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Green: Demonstration of Cases in the Wards. (Post-Graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Anatomy and Dislocations of the Joints of the Lower Extremity.

FRIDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. V. Cargill: Demonstration of Selected Eye Cases.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them. Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Communications, Letters, &c., have been received from—

A.—Dr. H. R. Annett, Liverpool; Mr. Avarne, Blaenavon; Dr. J. M. Atkinson, Hong Kong; Mr. J. Ackery, Lond.; Mrs. Arlidge, Newcastle-under-Lyme; Messrs. Allen and Hanburys, Lond.

B.—Sir William Banks, Liverpool; Mr. C. H. Bevan, Leominster; Dr. D. Bower, Bedford; Messrs. Burgoyne, Burbidges, and Co., Lond.; Mr. C. Birchall, Liverpool; A. Bishop, Ltd., Lond.; Messrs. W. H. Bailey and Son, Lond.; T. B. Browne, Ltd., Lond.; Dr. A. Foxwell, Birmingham; Bristol General Hospital, Secretary of.

C.—Mr. C. E. Covernton, Leeds; Messrs. Crossley, Molr, and Co., Lond.; Messrs. Carter, Lond.; Dr. H. C. Colman, Broughty Ferry, N.B.; Charing Cross Hospital Dinner, Hon. Secretaries of; Childhood Society, Lond., Hon. Secretary of; Chelsea Hospital for Women, Secretary of; Messrs. Coleman and Co., Norwich; F. J. H. Coutts, Manchester; Mr. Treacher Collins, Lond.; Mr. L. Cooke, Wigan; Dr. W. J. Collins, Lond.; Dr. W. T. Cocking, Sheffield; Dr. L. M. Cairns, Carlisle; Clinical Society of London, Assistant Secretary of; Sir Claude de Crespigny, Maldon; Mr. Douglas Crawford, Liverpool.

D.—Dr. J. W. Downie, Glasgow; Mr. P. Davidson, Lond.; Messrs. F. A. Davis and Co., Philadelphia; Messrs. Wm. Dawson and Sons, Lond.; Derby Borough Asylum, Clerk of; Mr. A. de Renzi, Christchurch, New Zealand.

E.—Dr. T. W. Eden, Lond.; Eastbourne Provident Medical Association, Hon. Secretary of; Dr. G. C. Elliott, Ainsdale.

F.—Mr. A. G. Francis; F. W. B.; Mr. H. A. T. Fairbank, Lond.; Mr. G. Francis, Denbigh; Messrs. S. Fisher and Sons, Lond.; Mr. E. H. Freeland, Lond.; Dr. P. C. Fenwick, Christchurch, New Zealand.

G.—Dr. W. Gem, Francistown, British Bechuanaland; Gerolstein Natural Mineral Water Co., Lond.; Mr. H. J. Glaisher, Lond.; Great Northern Central Hospital, Lond., Secretary of.

H.—Mr. T. Garrett Horder, Cardiff; Messrs. Haas and Co., Lond.; Mr. L. Hine, Lond.; Mr. L. F. Hovil, Lond.; Mr. A. F. Hort, Harrow; Mr. A. Howatson, Neuilly-sur-Seine; Mr. A. E. Henchley, Blagdon.

I.—Messrs. Idris and Co., Lond.; Messrs. Innes, Smith, and Co., Birmingham; Indian.

J.—Mr F. W. Joshua, Great Malvern; Mr. O. Jones, Glasgow; Jessop Hospital for Women, Sheffield, Secretary of.

K.—Mr. T. H. Kellock, Lond.

L.—Mr. P. G. Lodge, Bradford; Messrs. J. and J. W. R. Leiper, Aberdeen; Mr. W. F. Lace, Sutton-at-Hone; Mr. H. Lupton, Stratford-on-Avon; Dr. Lermitte, Lond.; Leeds and West Riding Medico-Chirurgical Society, Hon. Secretaries of; L. L.; Dr. D. Lawson, Banwell; Mr. H. K. Lewis, Lond.

M.—Dr. G. S. Middleton, Glasgow; Dr. W. J. Merry, Eastbourne; Mr. N. Macleod, Edinburgh; Miss L. A. Mauld, Lond.; Mr. H. Morris, Lond.; Mr. J. Milne, Lond.; Municipal Technical School, Swansea, Secretary of; Dr. J. A. MacDougall, North Berwick; Dr. B. W. MacArthur, Altrincham; Dr. B. A. Mills-Roberts, Bethesda; Medical Advertising Bureau, New York.

N.—Mr. G. H. North, Warstock; Miss K. E. Norie, Bath; National Telephone Co., Lond., District Manager of; Nobody, A., Lond.; Mr. J. O. Newman, Lond.; Norfolk and Norwich Hospital, Norwich, Secretary of; George Newnes, Ltd., Lond.

O.—Mr. J. R. O'Brien, Great Yarmouth; Oxford Rye Hospital, Hon. Secretary of; Old Park Hall Retreat, Sutton Coldfield, Secretary of.

P.—Mr. J. B. Pike, Loughborough; Sir Herbert Perrott, Lond.; Mr. W. G. Porter, Lond.; Messrs. Parke, Davis, and Co., Lond.; Mr. Y. J. Pentland, Edinburgh; Portable Buildings Co., Manchester; Mr. D'Arcy Power, Lond.; Pacific Subscription Agency, San Francisco, U.S.A.; Messrs. G. Philip and Son.

Q.—Queen Charlotte's Lying-in Hospital, Lond.; Question.

R.—Dr. W. B. Ransom, Nottingham; Royal Medical and Chirurgical Society, President of; Mr. W. K. Rix, Southbourne; Royal College of Surgeons in Ireland, Registrar of; Dr. Rolleston, Lond.; Royal Devon Hospital, Exeter, Secretary of; Dr. T. E. E. Roddis, Snettisham; Royal Halifax Infirmary, Secretary of; Royal Hants County Hospital, Winchester, Secretary of; Messrs. Reynolds and Branson, Leeds; Messrs. Rebman, Lond.

S.—Mr. T. Scattergood, Leeds; Scarborough Hospital, Secretary of; Dr. T. Shennan, Edinburgh; Messrs. Squire and Sons, Lond.; Mr. S. F. Smith, Romford; Dr. Smeeth, Stockport; Surgical Supply Association, Manchester, Secretary of; S. B.; Mr. F. Simms, Manchester; Suffolk General Hospital, Secretary of; Messrs. Street and Co., Lond.; *St. Neots Advertiser*, Manager of; Salutaris Water Co., Lond.; Mr. P. Skipworth, Lond.

T.—Mrs. J. Turner, Manchester; Tottenham Hospital, Clerk of; Tower House Retreat, Westgate-on-Sea, Secretary of; T. F.; T. Taylor, Lond.

U.—University College, Liverpool, Dean of the Medical Faculty of.

V.—Mr. S. Vines, Worksop; Vinolia Co., Lond.

W.—Mr. Roger Williams, Clifton; Dr. J. M. Williamson, Ventnor; Welsbach Incandescent Light Co., Lond.; Mr. J. Wilson, Lond.; Mr. F. F. Wellington, Lond.; Dr. Hugh Woods, Lond.; Mr. S. Wand, Leicester; Mr. C. Wilkes, Lond.; Mr. R. H. Worth, St. Day.

Y.—Dr. Meredith Young, Crewe; Mr. Young, Lond.; Yarrow Home, Broadstairs, Secretary of.

Z.—Messrs. Zimmer and Co., Frankfort.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. R. Anderson, Fern Hill; A. W. McM.; Mr. J. W. Arrowsmith, Bristol; Messrs. Armour and Co., Lond.

B.—Mr. W. G. Burcombe, Lincoln; Mr. F. Barnwell, Chaseley; Dr. W. Burns, Hednesford; *Birmingham Daily Post*; Messrs. J. N. Bishop and Sons, Lond.; Messrs. Blackie and Son, Lond.; Borough Hospital, Birkenhead, Hon. Treasurer of; Dr. H. C. Bhuttacharta, Nepal, India; Barnwood House Hospital, Gloucester, Medical Superintendent of.

C.—Mr. J. M. Carvell, Catford; Mr. J. H. Cropper, Thorne; Mr. J. S. Cowley, Upton-on-Severn; Messrs. T. Cook and Son, Lond.; Mr. E. Clarke, Lond.; C. R.; Coventry Hospital, Secretary of; Dr. C. Cochrane, Sheffield; Mr. H. W. Cox, Lond.; C. D. R.; C. W. M. G.; Chocolat Menier, Lond.; Mr. J. G. Christian, Alford; C. L. B.; Mr. E. P. Court, Paignton; C. M. L.; Mrs. Cooper, Darwen; Chateau, Brighton.

D.—Mr. T. F. Dillon, Rhos; Messrs. Dowie and Marshall, Lond.; Messrs. Duncan, Flockhart, and Co., Edinburgh; D. T. R.; D. A. C.; Dispenser, Wrexham; Messrs. Derry and Sons, Nottingham.

E.—Mr. C. Eddowes, Maddington; Messrs. Eastman and Son, Lond.; Exeter City Asylum, Clerk of; E. E.; Etablissement Thermal, Uriage, France; E. J. M.

F.—Dr. Forrester, Leigh, Kent; Francis, Stevenage.

G.—Mr. S. Griffin, Reading; Dr. C. Gross, Lond.; Messrs. C. Griffin and Co., Lond.; G. H. R.; G. H. P.; Dr. H. C. Garth, Calcutta; Mr. G. Griffith, Milford Haven; Grove House Private Asylum, Church Stretton; Mr. J. W. Griffin, Small Heath.

H.—Mr. A. W. Holloway, Boston; Messrs. Hooper and Co., Lond.; Mr. J. Heywood, Manchester; Hamilton Association, Lond.; Hereford General Infirmary, Secretary of; H. A. H. C.; Dr. D. Havard, Newport, Penn.; H. H. F.

J.—Dr. R. S. Jackson, Carnforth; Dr. R. W. Jones, Penrhiwceiber; Mr. Y. M. Jones-Humphreys, Cemmaes; J. B. B.; J. F. S.; J. H. J.; J. H.; J. S.; J. H. B.; J. E. B.; J. H. R.

K.—Mr. R. A. Keys, Salford; Messrs. Keith and Co., Edinburgh; K. F. S.; Messrs. Krohne and Sesemann, Lond.; Messrs. H. and F. Knowles, St. Helens.

L.—Messrs. Lee and Nightingale, Liverpool.

M.—Mr. W. A. Mushé, Lond.; Dr. J. F. Macara, Durness; Maltine Manufacturing Co., Lond.; Dr. C. L. Morrison, Kittybrewster; Mrs. C. J. Marsen, Lond.; Mr. J. Murray, Lond.; Manchester Hospital for Consumption, Secretary of; M. T.; M. J.; M.R.C.S., Newcastle-on-Tyne; Messrs. R. MacGeorge and Co., Lond.; Dr. A. D. Mackay, Chorley; Mr. C. E. Male, Cottenham; Dr. A. Marriott, Aldeburgh; Dr. D. A. McGregor, Clayton West; M.D., Brighton; M. C. W.; Melrose, Lond.; Mrs. M.; Macclesfield Infirmary, Secretary of.

N.—Northern Medical Association, Glasgow, Secretary of.

O.—O. G.

P.—Dr. C. Porter, Stockport; Miss Pink, Dawlish; Dr. F. W. Pavy, Lond.; Preston Royal Infirmary, Secretary of; Parish of St. Mary Islington, Clerk of; Mr. J. Pond, Norwich; Passmore Edwards Convalescent Home, Herne Bay, Matron of; Mr. J. L. Pinchin, Lond.

R.—Dr. W. Ross, West Hartlepool; Mr. T. J. Rowland, Manchester; Dr. R. M. Ralph, Southend-on-Sea; Rex, Liverpool; Messrs. Richardson Bros. and Co., Liverpool; Mr. H. S. Revell, Lond.; Messrs. Robinson and Sons, Chesterfield; Royal Albert Hospital, Devonport, Secretary of; Royal Surrey County Hospital, Guildford, Hon. Secretary of; R. S.; R. B.; R. C. T. E.

S.—Dr. J. R. Steen, Keady, Ireland; Stoke-upon-Trent Union, Clerk of; Mr. D. Samuel, Llanelly; Dr. G. M. Sydenham, Uckfield; St. Andrew's Hospital, Nottingham, Secretary of; St. Mary's Hospital, Manchester, Secretary of; South Australian Government Bonded Depôt, Lond., Secretary of; St. John Ambulance Association, Lond., Secretary of; Dr. R. M. Spooner, Blandford; Singlon, Manchester; Surgeon, Lond.; Messrs. Spiers and Pond, Lond.

T.—Dr. T. Telford-Smith, Lancaster; Mr. D. Travis, Halifax; T. M. G.; T. S. B.; T. H.; Messrs. J. Turner and Co., Queensferry; Mr. J. Thin, Edinburgh.

U.—University of Durham College of Medicine, Newcastle-on-Tyne, Secretary of.

W.—Mr. A. F. Wilson, Lond.; Mr. O. Wainwright, Brentford; W. F. B.; Wolverhampton General Hospital, Secretary of; Dr. F. W. Whyte, Strandtown, Ireland; Wonford House Hospital, Secretary of.

Y.—York County Hospital, Secretary of; Dr. T. M. Youngson, Longport.

Z.—Messrs. A. and M. Zimmermann, Lond.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.

Christmas Presents

FOR MEDICAL MEN.

AMONGST the 'Tabloid' Medicine and Hypodermic Cases will be found many elegant and compact outfits, which form most suitable Christmas or New Year's Presents for Medical Men. One or two cases are shown as specimens of the great variety made. They can be had in plain or fancy leathers, and special designs are made to order. A full list will be sent on request.

ABRIDGED LIST OF 'TABLOID' CASES.

'TABLOID' HYPODERMIC CASES.

No. 7.

Twelve tubes, fitted complete...	12/6
In aluminium	18/-
In brown or green seal ...	18/-
In crushed morocco	19/-
In brown or green crocodile...	20/-
In lizard skin or green Levant	20/-

'MUSSEL-SHELL' POCKET CASE.

In nickel-plated metal	10/6

DENTAL HYPODERMIC CASES.

In morocco... fitted complete	18/-
In brown seal ,, ,,	21/-
In brown or green crocodile ,,	24/-

SOLID SILVER HYPODERMIC CASE

Fitted complete	£10 10s.

'TABLOID' MEDICINE CASES.

No. 17.

	from
Sixteen vials, fitted complete ...	25/-
In olive-green Levant morocco	25/-
In green seal	26/-
In cowhide	27/-

No. 16A.

Outside measurements, 6⅛×4¼ 1¼ ins. Contains eight ½ oz. vials fitted with 'Tabloid' Compressed Drugs	15/-
In olive-green Levant morocco	18/-
In Brown Seal	21/-

PHYSICIAN'S CYCLE HANDLE-BAR CASE, fitted complete, from 33/-

PHYSICIAN'S CYCLE STAY-BAR CASE, fitted complete, from 40/-

BURROUGHS WELLCOME AND CO.,

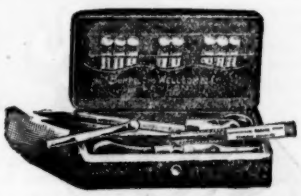
LONDON and SYDNEY.

No. 30.

'TABLOID' HYPODERMIC POCKET CASE.

The 'Miniature,' with fifteen tubes of 'Tabloid' Hypodermic Drugs, Syringe with two needles, etc., fitted complete 14/-

In aluminium ,, ,,	18/-
In brown or green seal ,, ,,	19/-
In crushed morocco ,, ,,	20/-
In brown or green crocodile ,,	21/-
In lizard skin or green Levant ,,	21/-



'TABLOID' OPHTHALMIC CASE.

With nine tubes of 'Tabloid' Ophthalmic Drugs, solution dropper, camel's hair brushes, etc. fitted complete 7/6

In brown seal ... ,, ,,	10/-
In brown crocodile ,, ,,	12/-

No. 24.

[COPYRIGHT]

EMERGENCY CASE.—No. 24.

Fourteen tubes of 'Tabloid' Drugs and twelve tubes of 'Tabloid' Hypodermic Drugs, Patent Hypodermic Syringe, etc. fitted complete, from 24/-

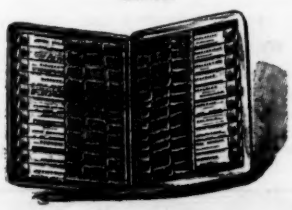
In brown or green seal ... ,,	32/-
In brown or green crocodile ,,	40/-

POCKET CASE.—No. 23.

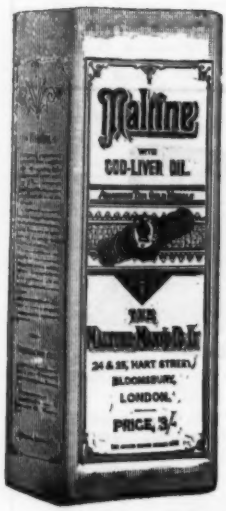
Contains ten to sixteen tubes of 'Tabloid' Compressed Drugs, according to the diameter of the tubes ...fitted complete from 9/-

Highly finished cases in brown or green crocodile or lizard skin, from 20/-

No. 23.



Recognised by the Medical Profession



Maltine with Cod Liver Oil

"Patients unable to tolerate the purest and most carefully prepared Cod Liver Oil can readily digest and assimilate it when combined with 'MALTINE.'"
British Medical Journal.

"MALTINE" WITH COD LIVER OIL represents a combination of "MALTINE" and 30 per cent. of the best, carefully selected Norwegian Cod Liver Oil. "MALTINE" is eminently adapted for this purpose, its pleasant flavour and odour admirably disguising the disagreeable smell and taste of the oil, and by means of the vacuum process, originated and improved by us, the incorporation of the oil with the "MALTINE" is far more perfect than in any other preparation of Cod Liver Oil.

Unlike emulsions, "Maltine" with Cod Liver Oil contains no inert or therapeutically valueless material.

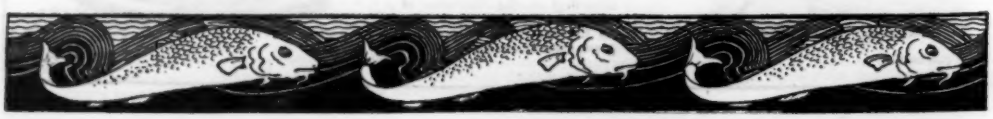
"MALTINE" with Cod Liver Oil does not disturb digestion nor offend the palate, but has been found to be tolerated by fastidious invalids who rejected all other forms of Cod Liver Oil.

as the most Palatable Form of Cod Liver Oil.

℞ *Maltine & Ol Morrhuae*

(MALTINE COMPANY).

We shall be pleased to send Specimens Free of Charge and Carriage Paid to Medical Men.

THE MALTINE MANUFACTURING COMPANY, Limited,

24 & 25, HART STREET, BLOOMSBURY, LONDON.